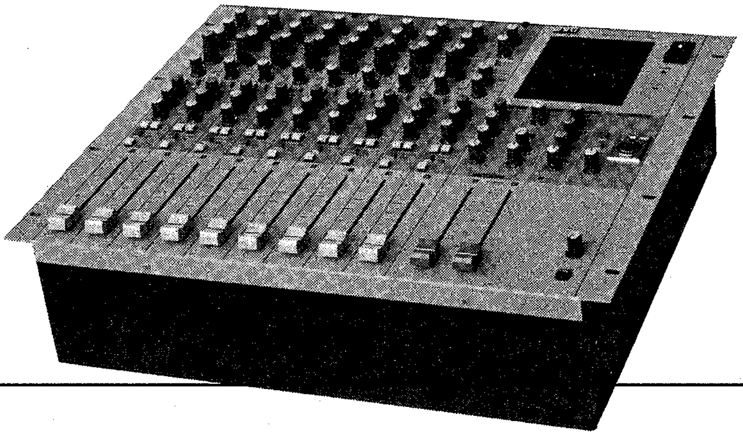
JVC

SERVICE MANUAL

AUDIO MIXER

MI-3000



No. 6495
Apr. 1988

TABLE OF CONTENTS

Section Title Page

IMPORTANT SAFETY PRECAUTIONS I
INSTRUCTIONS I

1. DISASSEMBLY ..... 1 - 1
  1.1 RE-ARRANGEMENT OF CONNECTORS ..... 1 - 1
  1.2 PHANTOM POWER SOURCE ..... 1 - 1
  1.3 REPLACEMENT OF FUSE ..... 1 - 1
  1.4 REMOVAL OF MAIN PARTS ..... 1 - 2

2. CHECKUP OF OPERATIONS ..... 2 - 1
  2.1 REQUIRED TEST EQUIPMENT ..... 2 - 1
  2.2 CONNECTIONS ..... 2 - 1
  2.3 SETTING OF CONTROLS ..... 2 - 2
  2.4 ADJUSTING PROCEDURE ..... 2 - 2
  2.5 CHECKUP OF SPECIFICATIONS ..... 2 - 3
  2.6 CHECKUP OF OPERATIONS ..... 2 - 3
  2.7 CHECKUP OF CONNECTION WITH MI-F30 ..... 2 - 5
  2.8 SETTING OF CONTROLS AT SHIPMENT ..... 2 - 5

3. REPACKING ..... 3 - 1

4. EXPLODED VIEWS AND PARTS LIST ..... 4 - 1
  4.1 SCREWS & WASHERS CODING ..... 4 - 1
  4.2 EXPLODED VIEWS AND PARTS LIST ..... 4 - 2

5. CHARTS AND DIAGRAMS ..... 5 - 1
  5.1 IC BLOCK DIAGRAMS ..... 5 - 1
  5.2 MI-3000 BLOCK DIAGRAM ..... 5 - 2
  5.3 OVERALL WIRINGS ..... 5 - 3
  5.4 CONNECTOR CIRCUIT BOARD ..... 5 - 4
  5.5 CONNECTOR BOARD SCHEMATIC DIAGRAM ..... 5 - 5
  5.6 INPUT A/INPUT B CIRCUIT BOARD ..... 5 - 6
  5.7 INPUT A/INPUT B BOARD SCHEMATIC DIAGRAM ..... 5 - 7
  5.8 STEREO INPUT CIRCUIT BOARD ..... 5 - 8
  5.9 STEREO INPUT BOARD SCHEMATIC DIAGRAM ..... 5 - 9
  5.10 MASTER R CIRCUIT BOARD 5-10
  5.11 MASTER R BOARD SCHEMATIC DIAGRAM 5-11
  5.12 MASTER L CIRCUIT BOARD 5-12
  5.13 MASTER L BOARD SCHEMATIC DIAGRAM 5-13
  5.14 MONITOR CIRCUIT BOARD 5-14
  5.15 MONITOR BOARD SCHEMATIC DIAGRAM 5-15
  5.16 POWER SUPPLY CIRCUIT BOARD 5-16
  5.17 POWER SUPPLY BOARD SCHEMATIC DIAGRAM 5-17
  5.18 LED METER CIRCUIT BOARD 5-18
  5.19 LED METER BOARD SCHEMATIC DIAGRAM 5-19

6. ELECTRICAL PARTS LIST ..... 6 - 1
  6.1 INPUT A/B BOARD ..... 6 - 1
  6.2 STEREO INPUT BOARD ASSEMBLY ..... 6 - 4
  6.3 MONITOR BOARD ASSEMBLY ..... 6 - 7
  6.4 MASTER R BOARD ASSEMBLY ..... 6 - 9
  6.5 MASTER L BOARD ASSEMBLY 6-10
  6.6 POWER SUPPLY BOARD ASSEMBLY 6-12
  6.7 CANNON BOARD ASSEMBLY 6-14
  6.8 TALK BACK BOARD ASSEMBLY 6-14
  6.9 H. PHONE BOARD ASSEMBLY 6-15
  6.10 POWER LED BOARD ASSEMBLY 6-15
  6.11 LED METER BOARD ASSEMBLY 6-16

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

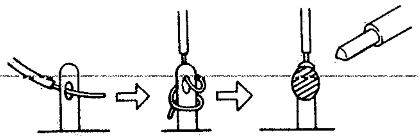


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

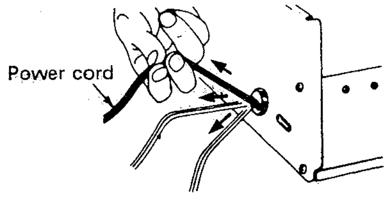


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
    1) **Connector part number :** E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

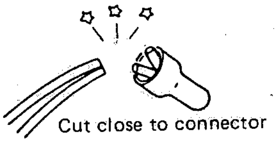


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

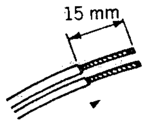


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

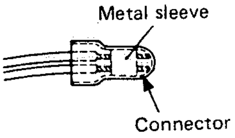


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

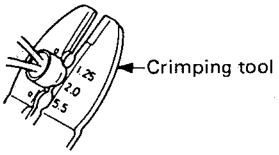


Fig. 6

(5) Check the four points noted in Fig. 7.

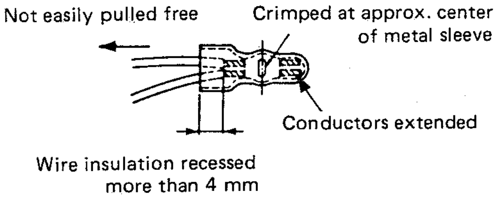

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

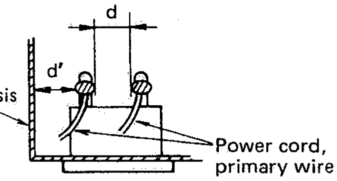


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method: (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

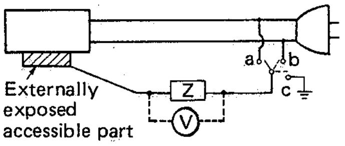


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

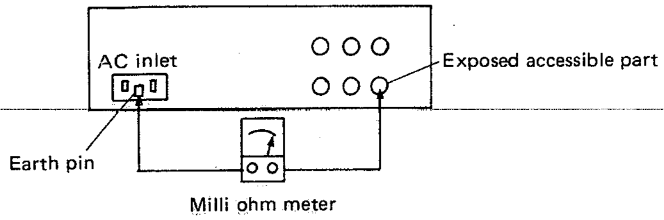


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

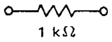
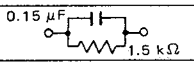
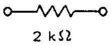
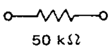
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	 1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	 0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	 2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		 50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

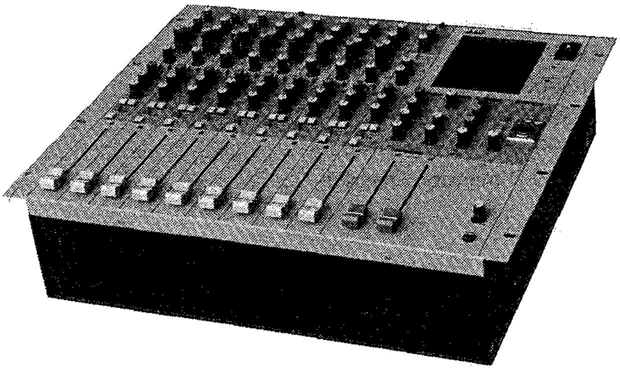
Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

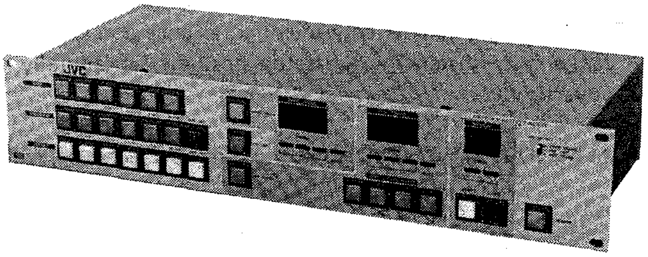
JVC Instructions

AUDIO MIXER/AUTO FADER

MI-3000/MI-F30



AUDIO MIXER
MI-3000



AUTO FADER
MI-F30

As MI-3000 and MI-F30 are not sold in a set, please place an order for each.

Thank you for purchasing the JVC MI-3000 Audio Mixer and MI-F30 Auto Fader. To gain maximum benefit from them and for correct operation, please read this instruction carefully. After reading, retain it for future reference.

FEATURES

MI-3000

- **8 monaural channels + 1 stereophonic system (MI-3000)**
  A multi-channel audio mixer having 10 channels in total. Every input circuit is composed of two input systems of A and B. For channels 1–4 both A and B are balanced input (XLR type connector), while for channels 5–8 A is balanced and B is unbalanced type (pin jack).
  Main input terminals are equipped with cannon type connectors for business use.
- **Built-in VCA (Voltage Controled Amplifier) (MI-3000)**
  VCA is built in the main input channels respectively. This realizes remote control of MI-3000's channel level, etc. in combination with the Auto Fader MI-F30.
- **Superior function for creative sound (MI-3000)**
  • 3-stage channel equalizer • TRIM control • 100 mm ultra smooth fader • PFL (pre-fader listen) switch • oscillator (400 Hz, 7 kHz) • 15-dot LED meter • input terminal for talk-back microphone, etc.
- **Audio follow video system (MI-F30)**
  By audio follow-up video operation in combination with the special effects generator KM-3000, operations of channel selection, auto transition, etc. are synchronized with the KM-3000.
- **4 kinds of cross-fade patterns (MI-F30)**
  Mode of sound transition and alteration can be selected from among four kinds of cross-fade ramps in addition to a wide range of transition rate selectable from 0 to 999 frames.
- **Memory setting capable for 100 events (MI-F30)**
  Crosspoints, cross-fade patterns and transition rates can be memorized up to 100 events.
- **Mountable on EIA rack**
  Both MI-3000 and MI-F30 can be mounted on a standard 19" EIA rack. The control panel of MI-3000 can be positioned on the back or bottom of the mainframe at user's option. This is convenient to arrange connection cables notwithstanding the setup position, horizontally or vertically.

CONTENTS

Page
Warnings 3
MI-3000 Names of Parts
  Front Panel 4
    1. Input section 5
    2. Stereo input selection 6
    3. Master section 7
    4. Monitor section 7
    5. Talkback section 8
    6. Meter section 8
    7. Power section 8
    8. Remote section 8
  Rear Panel 9
    1. Input section 9
    2. Output section 10
    3. Others 10
MI-F30 Names of Parts
  Front Panel 11
    1. Cross point selectors 11
    2. Effectors 11
    3. Memory section 12
  Rear Panel 12
MI-F30 Example of Effects 13
MI-F30 Serial Interface 13
  Audio Follow Video Mode 13
  Pin Layout of Serial Interface 13
Remote Control of MI-3000 by MI-F30
  Connection 14
  Setup 14
  Operation 14
Audio Follow Video Operation by KM-3000
  Connection 15
  Setup 15
  Respondence to KM-3000 Front Panel 15
  Setting of Cross Point 16
  Setting of Transition Rate 16
  Operation 16
MI-3000 Block Diagram 17
MI-F30 Block Diagram 18
MI-3000 Level Diagram 18
Connection with Peripheral Equipment 19
MI-3000 Specifications 20
MI-F30 Specifications 20
MI-3000 Input/Output Specifications 21
MI-3000 Characteristics 21
MI-3000 Dimension Diagram 22
MI-F30 Dimension Diagram 22

As MI-3000 and MI-F30 are not sold in a set, please place an order for each.

WARNINGS

Due to design modifications, data given in this instruction book are subject to possible change without prior notice.

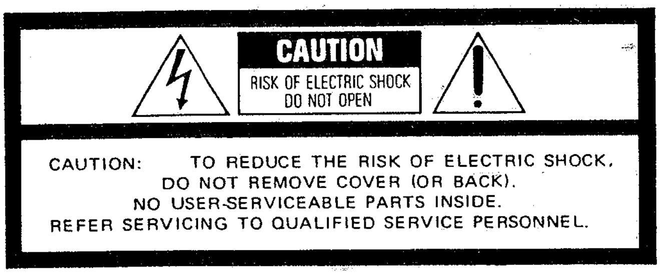
WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

AVERTISSEMENT:
POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

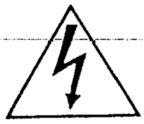
Warning Notice
FOR YOUR SAFETY

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively grounded through the normal household wiring.
Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth ground. Wrongly wired extension cords are a major cause of fatalities.
The fact that the equipment operates satisfactorily does not imply that the power point is properly grounded and that the installation is completely safe. For your safety, if in any coubt about the correct grounding of the power point, consult a qualified electrician.

For U version



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

With the Cannon connectors, pin 3 is the HOT terminal.

When wiring female connectors (XLR-3-31 type), pin connections are: (1) GROUND, (2) COLD, (3) HOT. When unbalanced outputs are required for the MASTER outputs which use male connectors (XLR-3-32 type), pin connections to be wired are: (1) GROUND, (2) GROUND, (3) HOT.

For E version

WARNING – THIS APPLIANCE MUST BE EARTHED
IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

CAUTION!
CHECK YOUR LINE VOLTAGE.

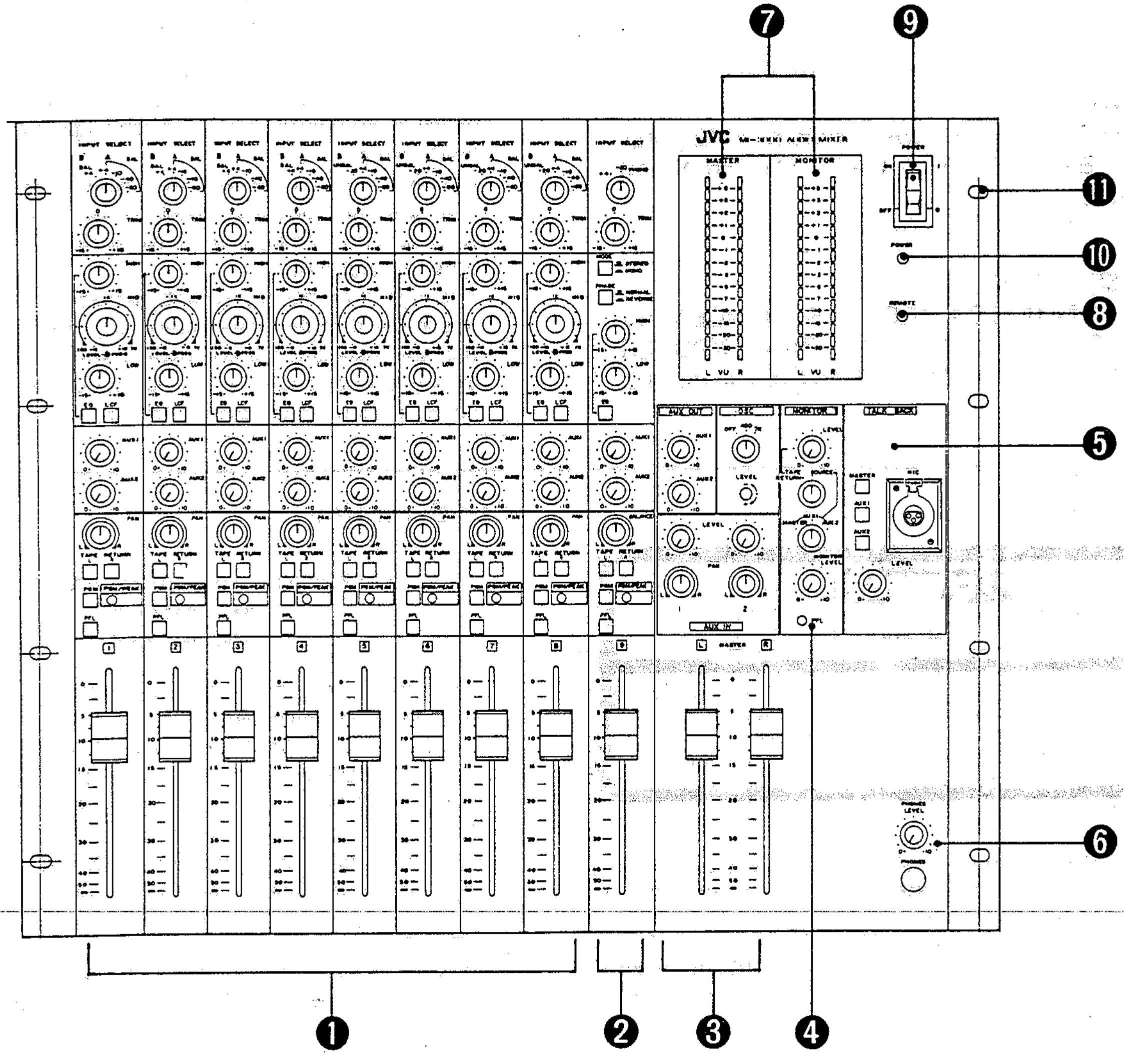
The MI-3000/MI-F30 have been preset for a line voltage of 240 V (EK Type) or 220 V (EG Type). Before inserting the power plug, please check this setting to see that it corresponds with the line voltage in your area.

With the Cannon connectors, pin 2 is the HOT terminal.

When wiring female connectors (XLR-3-31 type), pin connections are: (1) GROUND, (2) HOT, (3) COLD. When unbalanced outputs are required for the MASTER outputs which use male connectors (XLR-3-32 type), pin connections to be wired are: (1) GROUND, (2) HOT, (3) GROUND.

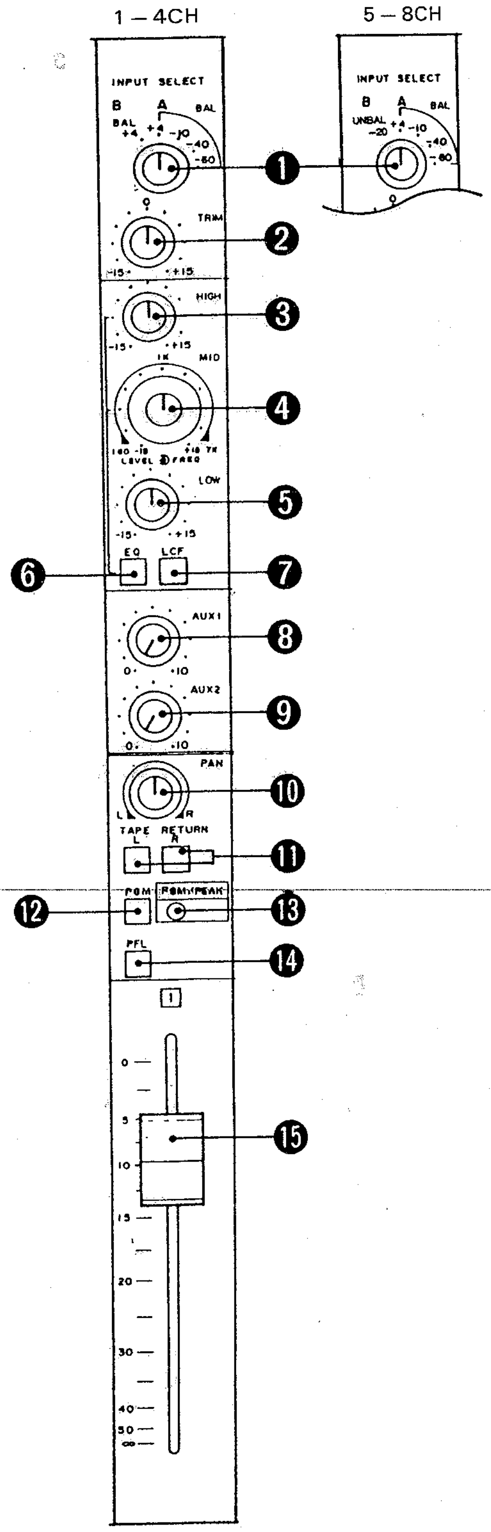
MI-3000 NAMES OF PARTS

■FRONT PANEL



- ❶ INPUT (CH1 – CH8) section
- ❷ STEREO INPUT section
- ❸ MASTER section
- ❹ MONITOR section
- ❺ TALKBACK section
- ❻ HEADPHONE section
- ❼ LEVEL METER section
- ❽ REMOTE indicator (Green)
- ❾ POWER switch
- ❿ POWER indicator (Red)
- ⓫ Screw holes for mounting
  For mounting the MI-3000 on the EIA rack, etc., use these 8 holes for screwing.

1. INPUT SECTION



❶ **INPUT SELECT switch**
To select input level. For INPUT A (Balanced input), one from among four input levels (–60, –40, –10, +4 dB) can be selected; and for INPUT B, Balanced +4 dB (CH1–4) or Unbalanced –20 dB (CH5–8) input can be selected. As sound volume is maximum at "–60" position, select the setting position according to microphones and equipment connected.

❷ **TRIM volume control**
To vary the input level selected by the INPUT SELECT switch ❶ in a range of ±15 dB.

❸ **HI equalizer,** ❺ **LOW equalizer**
These are characterized by shelving type. The position "0" is for flat tone, and if they turned fully clockwise or counterclockwise, sound is boosted or cut by ±15 dB for 10 kHz (HI) and 100 Hz (LOW) signals respectively.

❹ **MID equalizer**
This is also used for tone control. The inner knob boosts or cut by ±15 dB, while the outer knob continuously varies the center frequency from 150 Hz to 7 kHz. Alteration characteristic is a peaking type.

❻ **EQ (equalizer) switch**
To set the equalizer circuit operative. With this switch pushed, tone control by the HI ❸, LOW ❺ and MID ❹ equalizers is possible.

❼ **LCF (low cut filter)**
This switch cuts off harmful noise by the function of the low cut filter which cuts off 75 Hz or lower frequencies with the attenuating characteristic of 12 dB/oct.

❽ **AUX 1 volume control**
To control sound volume of input signal from the post fader line to the AUX 1 bus line.

❾ **AUX 2 volume control**
To control sound volume of input signal from the post fader line to the AUX 2 bus line.

❿ **PAN POT control**
Branches input signal to the MASTER L and R channels and positions acoustic image at an operator's option. In case of sterephonic sound input from a CD or tape recorder, turn a control to the full extent of R side while the other channel to L side in order to obtain stereophonic output.

⓫ **TAPE RETURN L, R switches**
This switches to send input signal to the TAPE RETURN L or R bus line. When either of the switches is pressed, no signal is supplied to the MASTER and AUX 1 bus lines.

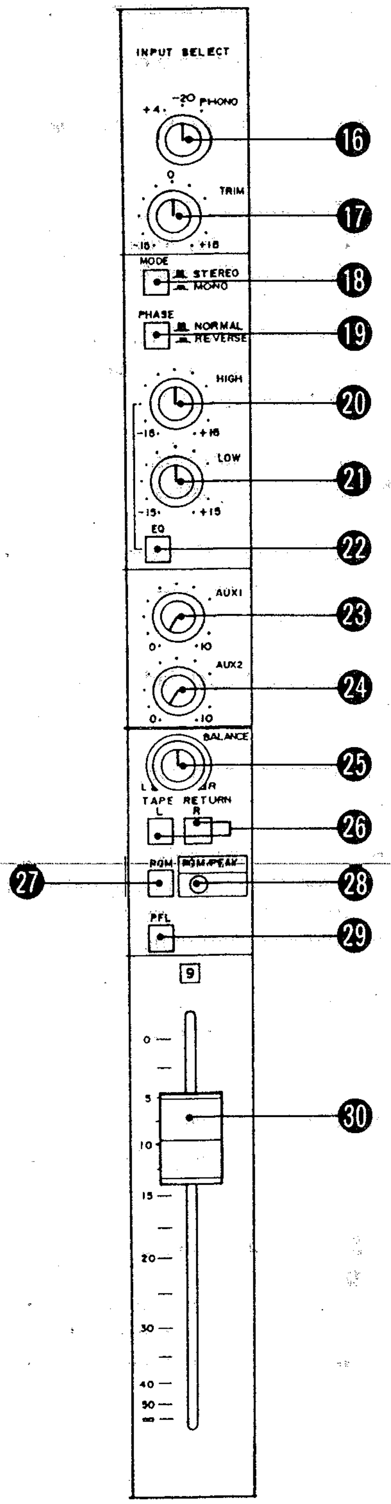
⓬ **PGM (program) switch**
To send input signal to the MASTER and AUX 1 bus lines.
Make sure to turn off this switch when the MI-F30 is used for remote control of sound volume.

⓭ **PGM/PEAK indicator**
Lights in green when the PGM switch ⓬ is pressed, however, it does not light if the TAPE RETURN L/R switch ⓫ is pressed.
If input level is maximum and the head amplifier is nearly at its clipping point (6 dB under the clipping point), the indicator lights in red. In this case, reset the INPUT SELECT switch ❶ and adjust the TRIM volume control ❷ again.

⓮ **PFL (pre-fader listen) switch**
Pressing this switch set this mixer to PFL monitor mode with the PFL indicator ㊶ lighting. In this mode, signal condition of every input line can be checked by the monitor circuit as it is at the pre-fader stage.

⓯ **INPUT FADER control**
Controls sound volume of signal to the post fader line. Adjust the INPUT SELECT switch ❷ and the TRIM volume control ❶ so as to set the level around the degree of "10" and to align fading point of every input signal. This makes operation easy. (When sound volume is controlled by the MI-F30, the level set by this INPUT FADER control is maximum.)

2. STEREO INPUT SECTION



⑯ **INPUT SELECT switch**
This switches input source (LINE or PHONO input) and level of LINE input (−20 dB or +4 dB).

⑰ **TRIM volume control**
To vary the input level selected by the INPUT SELECT switch ⑯ in a range of ±15 dB.

⑱ **STEREO/MONO switch**
By pressing this switch, stereo input signal is mixed to be monaural signal.

⑲ **PHASE switch**
Pressing this switch inverts signal phase on L channel.

⑳ **HI equalizer, 21 LOW equalizer**
These are characterized by shelving control of tone quality. The position "0" is for flat tone, and if they are turned fully clockwise or counterclockwise, sound is boosted or cut by ±15 dB for 10 kHz (HI) and 100 Hz (LOW) signals respectively.

㉒ **EQ (equalizer) switch**
To set the equalizer circuit operative. With this switch pressed, tone quality control by the HI ⑳ and LOW ㉑ equalizers is possible.

㉓ **AUX 1 volume control**
Controls sound volume of input signal from the post fader line to the AUX 1 bus line.

㉔ **AUX 2 volume control**
Controls sound volume of input signal from the pre fader line to the AUX 2 bus line.

㉕ **BALANCE control**
For balancing input signal levels of R and L channels.

㉖ **TAPE RETURN L, R switches**
Switches to send input signal to the TAPE RETURN L or R bus line. When either of the switches is pressed, no signal is supplied to the MASTER and AUX 1 lines.

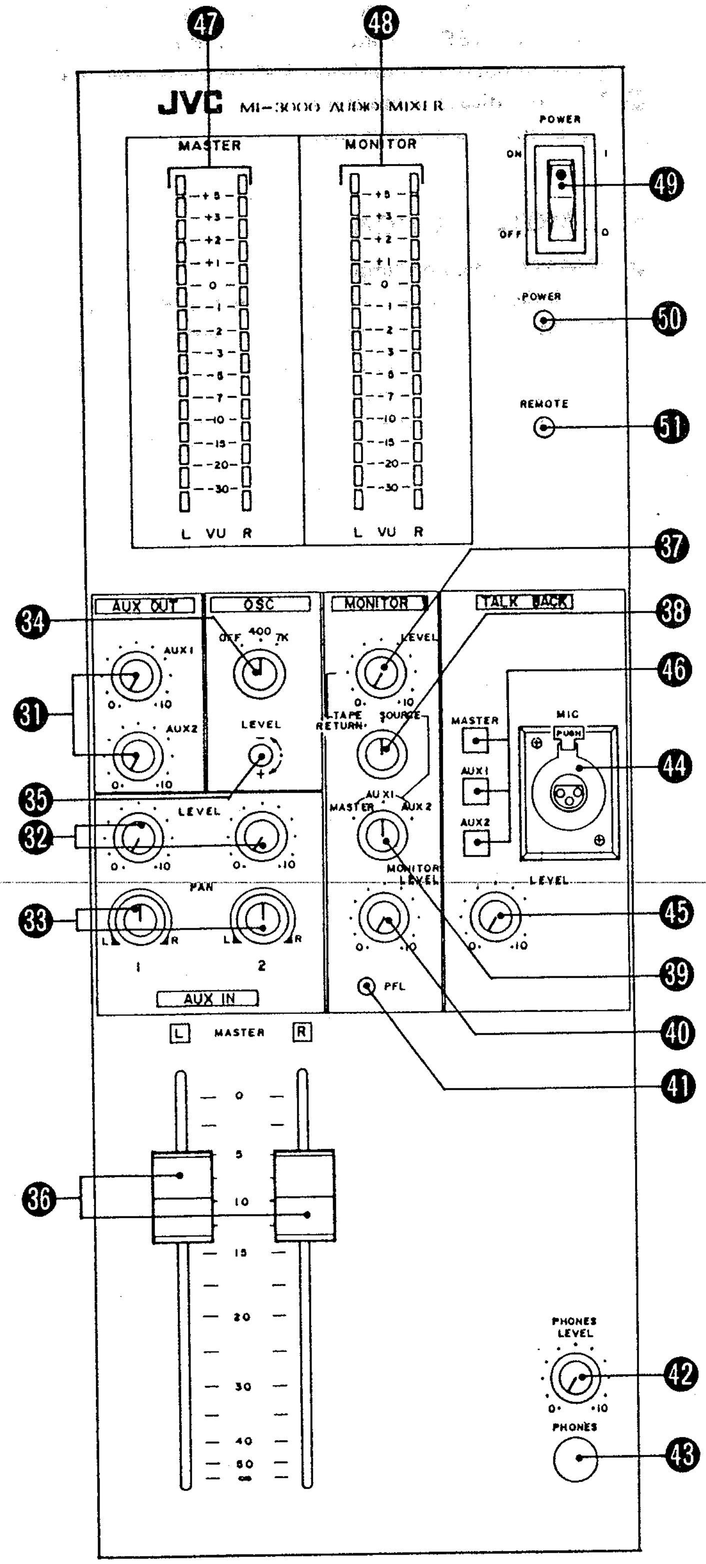
㉗ **PGM (program) switch**
To send input signal to the MASTER and AUX 1 bus lines. (Make sure to turn off this switch when the MI-F30 is used for remote control of sound level.)

㉘ **PGM/PEAK indicator**
Lights in green when the PGM switch ㉖ is pressed, however, it does not light if the TAPE RETURN L/R switch ㉕ is pressed.
If input level is maximum and the head amplifier is nearly at its clipping point (6 dB under the clipping point), the indicator lights in red. In this case, reset the INPUT SELECT switch ⑯ and adjust the TRIM volume control ⑰ again.

㉙ **PFL (pre-fader listen) switch**
To check up input signal in the condition just before the stereo input fader by use of the monitor circuit. When this switch is pressed, the PFL indicator (41) lights and the audio mixer is automatically set in PFL monitor mode.

㉚ **STEREO INPUT FADER**
Controls sound volume of signal to the POST FADER line. Adjust the INPUT SELECT switch ⑯ and TRIM volume control ⑰ again so that this can be set around "10" degree of the scale. Setting at this position align fading point of every input signal and makes operation easy.

3. MASTER SECTION



㊼
㊽
JVC
AUDIO MIXER
MASTER
MONITOR
+5
+3
+2
+1
0
-1
-2
-3
-5
-7
-10
-15
-20
-30
L VU R
L VU R
POWER
ON
OFF
㊾
POWER
(50)
REMOTE
(51)
AUX OUT
AUX1
AUX2
OSC
OFF 400 7K
LEVEL
MONITOR
LEVEL
TAPE RETURN
SOURCE
AUX1
MASTER
AUX2
MONITOR LEVEL
PFL
TALK BACK
MASTER
AUX1
AUX2
MIC
PUSH
LEVEL
LEVEL
PAN
L R
1
2
AUX IN
L MASTER R
0
5
10
15
20
30
40
60
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PHONES LEVEL
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㉛ **AUX 1, 2 volume controls**
To mix AUX input signals by input line and to send the mixed signal to AUX 1 and AUX 2 OUT terminals ⓫ on the rear panel.

㉜ **AUX IN LEVEL controls**
To control sound volume of AUX IN 1 and AUX IN 2 input signals respectively. When these are not used, set them to "0" position (fully counterclockwise position).

㉝ **AUX IN PAN POT controls**
To branch input signals of AUX IN 1 and AUX IN 2 to the MASTER L and R lines respectively.

㉞ **OSC (oscillator) switch**
To switch the oscillator's output to "OFF", "400 Hz" and "7 kHz" sine waves. Oscillator signal is supplied to the MASTER L and R output lines (next stage of the MASTER FADER) and AUX 1 and 2 bus lines. When the oscillator is not used, make sure to set this switch to "OFF" position.

㉟ **LEVEL control**
To control signal level of the oscillator.

㊱ **MASTER FADER L and R**
To mix input signals for MASTER output and to control sound volume.

4. MONITOR SECTION

㊲ **TAPE RETURN LEVEL volume control**
To mix TAPE RETURN signals coming from input line and the TAPE RETURN IN terminal (❽ on the rear panel) and to control monitor sound volume.

㊳ **SOURCE/TAPE RETURN switch**
To select monitor signal from the SOURCE (MASTER, AUX 1 and AUX 2) and TAPE RETURN signals. For remote control of switchover between SOURCE and TAPE RETURN by the MI-F30, set this switch to the "SOURCE" position.

㊴ **SOURCE switch**
When the SOURCE/TAPE RETURN switch ㊳ is set to the "SOURCE" position, source signal can be selected from among "MASTER", "AUX 1" and "AUX 2" by this switch.

㊵ **MONITOR LEVEL control**
Controls sound volume of signal to be output through the MONITOR OUT terminal ⓬ on the rear panel.

㊶ **PFL indicator**
In the condition that the PFL switch of the INPUT or STEREO INPUT section is pressed, this lamp lights to indicate the set in the PFL monitor mode.

㊷ **PHONES LEVEL control**
To monitor the signal selected by the SOURCE/TAPE RETURN switch ㊳ or SOURCE switch ㊴ .
To control output level of the headphones notwithstanding setting position of the MONITOR LEVEL volume control ㊵ .

㊸ **PHONES jack**
Provided for inserting a headphone plug into it.

5. TALKBACK SECTION

㊸ **MIC connector**

A Cannon type connector (XLR-3-31 female type) to connect a talkback microphone.

㊺ **LEVEL control**

To control sound volume of the talkback microphone.

㊻ **Transmitter switches**

To transmit signal from the talkback microphone to the MASTER L/R, AUX 1 or AUX 2.

By switching on the MASTER L/R or AUX 1 switch, talkback signal is mixed with MASTER or AUX 1 output respectively; while just the AUX 2 is switched on, only talkback signal is transmitted.

Any one of these switches is pressed, monitor output is muted by 20 dB.

6. METER SECTION

㊼ **MASTER LEVEL METER L, R**

Each indicates level of MASTER output. The meter reads "0" when the output level is +4 dB (0 dB = 0.775 V).

㊽ **MONITOR LEVEL METER L, R**

Indicates level of MONITOR signal for R and L channels. The meter reads "0" at +4 dB in signal level (0 dB = 0.775 V).

The level indicated is that at the stage previous to being affected by the MONITOR LEVEL volume control ㊵.

7. POWER SECTION

㊾ **POWER switch**

Pressing this key to the "ON" side turns on the power and the POWER indicator (red), and the whole machine will be in operating condition 4—5 seconds after that.

㊿ **POWER indicator lamp (red)**

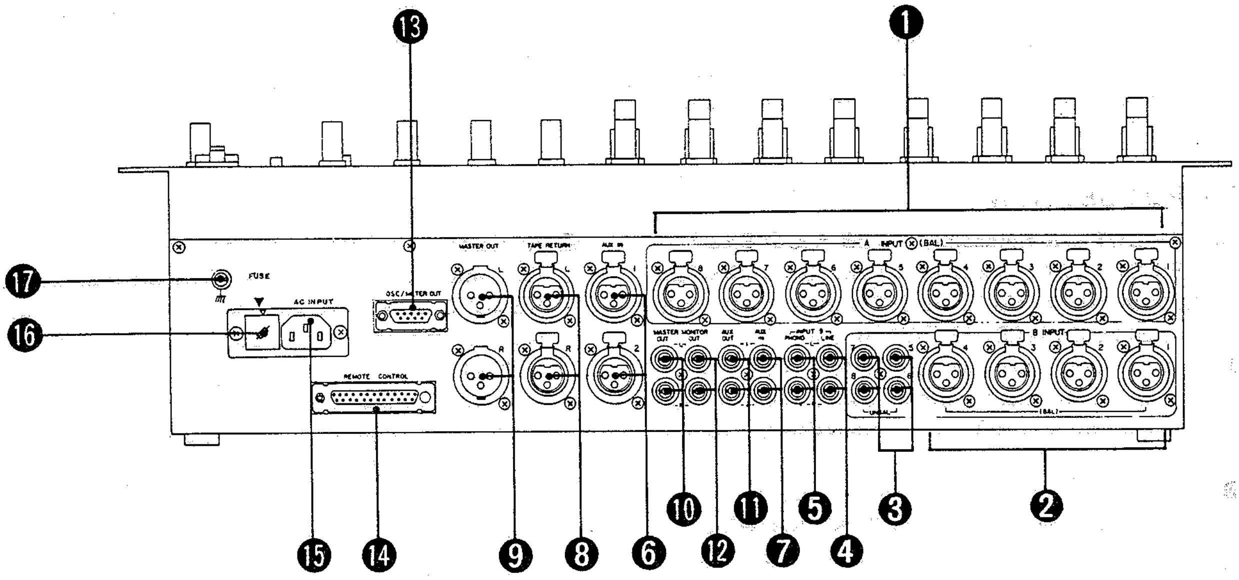
Lights during the power ON.

8. REMOTE SECTION

(51) **REMOTE indicator lamp**

This indicator lights by turning on the POWER of the MI-F30 connected to the MI-3000 with a D SUB 25P connector. In this state, remote control by MI-F30 is possible for input channel selection, level control of stereo input channel and turning on/off of PGM switch on the MI-3000.

▪REAR PANEL (MI-3000)



1. INPUT SECTION

❶ **INPUT A (1—8 channels) connectors**
(Input level: —60 ~ +4 dB, Input impedance: 5 kΩ BAL.)
Input terminals for connecting microphones whose output impedance is 50—600 Ω and external equipment of balanced 600 Ω output impedance.
Every connector is Cannon (XLR-3-31 female type), and Cannon (XLR-3-12C male type) plugs are recommended for connection.
Input level can be selected by the INPUT SELECT switch from among —60, —40, —10 and +4 dB, and each selected level can moreover be altered within ±15 dB by use of the TRIM volume control. Select appropriate level to the microphones and equipment connected or to the purpose.
Avoid connection with equipment of high output impedance since each connector's input impedance is 5 kΩ approx.

❷ **INPUT B (1—4 channels) connectors**
(Input level: +4 dB, Input impedance: 5 kΩ BAL.)
Cannon type connectors (XLR-3-31 female, or equivalent) to connect equipment whose output impedance is balanced 600 Ω.
It is recommended to use Cannon type plug (XLR-3-12C male, or equivalent) for connection.
When these terminals are used, set the INPUT SELECT switch to the "BAL +4" position and use the TRIM volume control for fine adjustment appropriate to the equipment connected or the the purpose.
Since the input impedance is 5 kΩ approx., avoid connection with equipment of high output impedance.

❸ **INPUT B (5—8 channels) connectors**
(Input level: —20 dB, Input impedance: 10 kΩ UNBAL.)
Pin jacks for input from external equipment of unbalanced output. When these terminals are used, set the INPUT SELECT switch to the "UNBAL —20" position and use the TRIM volume control for fine adjustment suitable for the connected equipment or the purpose.

❹ **LINE L, R INPUT (channel 9) connectors**
(Input level: —20, +4 dB, Input impedance: 10 kΩ UNBAL.)
Pin jack input terminal for connection with external equipment of stereophonic unbalanced output.
When this jack is used for connection, set the INPUT SELECT switch to the "—20" or "+4" (dB) position and use the TRIM volume control for fine adjustment within ±15 dB. Perform such the adjustments to demonstrate the connected equipment and the intention.

❺ **PHONO L, R INPUT (channel 9) connectors**
(Input level: —54 dB, Input impedance: 50 kΩ/1 kHz UNBAL.)
Pin jack input terminal for direct input of a record player's cartridge (MM type) output.
When this jack is used, set the INPUT SELECT switch to the "PHONO" position and use the TRIM volume control for fine adjustment.

❻ **AUX IN 1, 2 connectors (—10 dB, 10 kΩ BAL.)**
❼ **AUX IN 1, 2 connectors (—10 dB, 10 kΩ UNBAL.)**
Besides the main input terminals, these terminals make the PAN POT and LEVEL controls effectuate, especially they are suitable for "Effect Return" (to input signals which were once input to an effector such as a reverberation [echo] machine again) as well as for inputs from two audio mixers used in combination.
❻ is a Cannon type female connector (XLR-3-31 or equivalent) for input from equipment of 600 Ω balanced output. Use Cannon type make connector (XLR-3-12C or equivalent) for connection to this jack.
❼ is pin jack terminal for connection with equipment of unbalanced output.

⑧ **TAPE RETURN L, R connectors (−10 dB, 10 kΩ BAL.)**
Input terminals for supply external signals directly to the monitor section. It is convenient for check up of sound recorded by a VTR at editing video tape.
When these terminals are used, set the SOURCE/TEPE RETURN switch to "TAPE RETURN" and adjust monitor volume by the TAPE RETURN LEVEL volume control. With this connection, signals supplied to the tape return bus line from input sources can be mixed together with for monitoring.

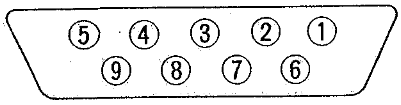
2. OUTPUT SECTION

⑨ **MASTER OUT L/R connectors (+4 dB, 600 Ω BAL.)**
⑩ **MASTER OUT L/R connectors (+4 dB, 10 kΩ UNBAL.)**
Output terminals for MASTER OUT signals whose levels are adjusted by the MASTER FADER L and R.
⑨ is a Cannon type male connector (XLR-3-32 or equivalent) for balanced output, and a Cannon type female connector (XLR-3-11C or equivalent) is recommended for connection with this.
⑩ is pin jack terminals for unbalanced output.

⑪ **AUX OUT 1, 2 connectors (+4 dB, 10 kΩ UNBAL.)**
Unbalanced output terminals for AUX output signals whose levels are adjusted by the AUX volume controls ㉛ on the front panel.

⑫ **MONITOR OUT L/R connectors (+4 dB, 10 kΩ UNBAL.)**
Unbalanced output terminals of pin jack type for output of monitor signals whose levels are adjusted by the MONITOR LEVEL control ㊵ on the front panel.

OSC/METER OUT connector (D SUB 9-pin)
⑬ Used to transmit oscillator output to external equipment or to monitor signal level with external measuring equipment.
Pin arrangement of this connector is shown below.



Pin No.	Signal
1	METER OUT MASTER L-ch
2	METER OUT MASTER R-ch
3	METER OUT MONITOR L-ch
4	METER OUT MONITOR R-ch
5	GND
6	OSC OUT
7	GND
8	
9	

3. OTHERS

⑮ **AC INLET**
Connect the plug of the provided power cord.

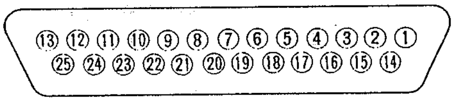
⑯ **FUSE holder**

Version	Rating of the fuse	Holder
U	800 mA 250 V	▼ 120
E	315 mA 250 V	EG ▼ 220 EK ▼ 240

Do not use any other fuse than the specified one.
Ask the agent for replacing the fuse.

⑰ **GND (ground) terminal**

⑭ **REMOTE CONTROL connector (D SUB 25-pin)**
For remote control of MI-3000 by MI-F30, connect the REMOTE CONTROL terminal of MI-F30 to this terminal with the connector cable (D SUB 25-pin) provided with MI-F30.



Pin No.	Signal
1	VCA CH-1
2	VCA CH-2
3	VCA CH-3
4	VCA CH-4
5	VCA CH-5
6	VCA CH-6
7	VCA CH-7
8	VCA CH-8
9	VCA CH-9 (STEREO)
10	VCA THROUGH
11	MUTE
12	GND
13	GND
14	PROGRAM CH-1
15	PROGRAM CH-2
16	PROGRAM CH-3
17	PROGRAM CH-4
18	PROGRAM CH-5
19	PROGRAM CH-6
20	PROGRAM CH-7
21	PROGRAM CH-8
22	PROGRAM CH-9 (STEREO)
23	TAPE RETURN
25	GND
25	DC 12 V

- **Change of Master Output Level**

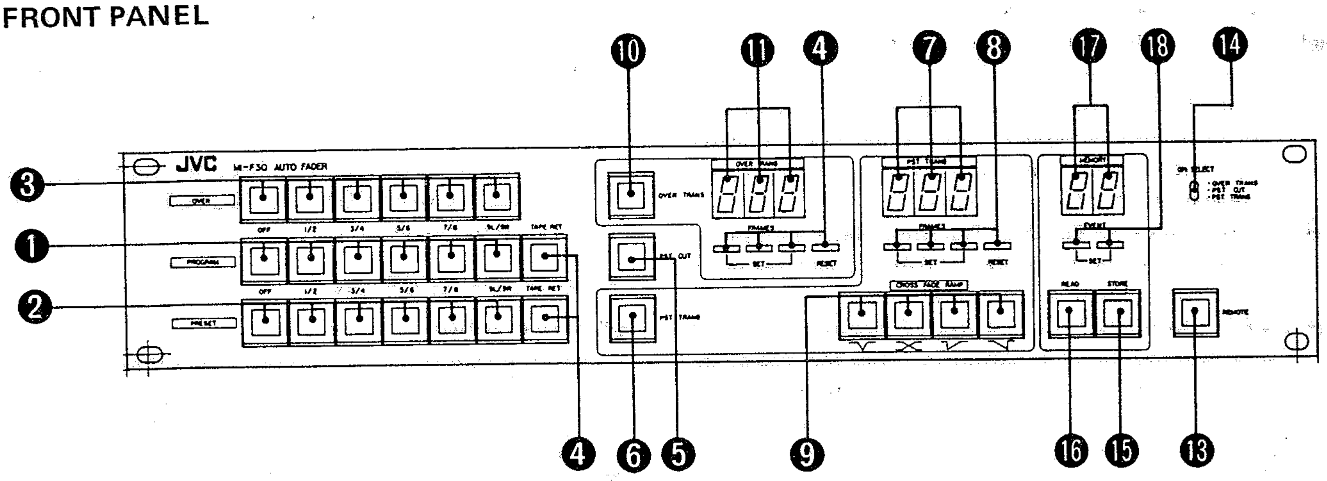
By switching DIP switches inside the mainframe, gain of master output can be increased by +4 dB. If DIP switches are set for this purpose, the master level meter reads "0 dB" when master output level is +8 dB (0.75–0.775 V).
For this setting of DIP switches, consult your JVC dealer.

- **Position of the Connectors Panel**

The connectors panel located on the back can be relocated on the bottom of the mainframe for user's convenience and easy wiring.
For change of the position, consult a JVC dealer or an authorized service agent.

MI-F30 NAMES OF PARTS

▪FRONT PANEL



1. CROSS POINT SELECTORS

❶ **PROGRAM (PGM) BUS selector/indicator**
To select sound to be output to the bus (main track) before the PST CUT ❺ or PST TRANS ❻ has an effect on it. The indicator lights brightly during output to the bus, while it does faintly in no output.

❷ **PRESET (PST) BUS selector/indicator**
To select sound to be output to the bus after the PST CUT ❺ or PST TRANS ❻ had an effect on it. The indicator lights brightly during output to the bus, while it does faintly in no output.

❸ **OVER BUS selector/indicator**
To select sound to be over-mixed to the signal on the bus. The indicator lights faintly before over-mixing, while lights brightly after over-mixing.

❹ **TAPE RET (Tape Return) button**
Switchover of SOURCE and TAPE RETURN of the MI-3000's monitor section can be performed by MI-F30 (in the condition that the SOURCE/TAPE RETURN switch ㉝ is set to "SOURCE" position).

When the TAPE RET switch located next to the PGM BUS selector is turned on (indicator lighted up), the MONITOR input of the MI-3000 is set for the TAPE RETURN.

When the TAPE RET switch next to the PGM BUS selectors is turned off (indicator put out), the MONITOR input of the MI-3000 is set for the SOURCE.

2. EFFECTORS

(1) PST CUT section

❺ **PST CUT (Preset Cut) switch**
To change over sound input from the PGM BUS to the PST BUS at a moment. After the effect, PGM BUS and PST BUS are changed for each other.

(2) PST TRANSITION section

❻ **PST TRANS (Preset Transition) button**
To transit sound from the PGM BUS to PST BUS at a time (frame) set by the PST TRANS RATE ❼. The indicator lights during the effect. If the button is pressed in this operation, it stops the effect temporarily, and pressing once more starts the operation again.

After the effect, the PGM BUS and PST BUS are changed for each other.

❼ **PST TRANS RATE (Preset Transition Rate) indicator**
Indicates time of the PST TRANS effect on a unit of frame (999 frames at maximum).

❽ **PST TRANS RATE SET & RESET buttons**
Every pressing the SET button increases the numeral one after another on the same figure. Since it does not affect the upper figure, the displayed numeral changes from 9 to just 0.

By pressing the RESET button, the displayed numerals are reset to "000".

❾ **CROSS FADE RAMP selectors**
Under an effect of the PST TRANS, a transition pattern from the PGM BUS and PST BUS can be selected from among the following four by pressing one of these buttons.

1) VEE FADE
PGM BUS sound is gradually turned down and becomes silent in the midway of the PST TRANS RATE. From this time, PST BUS sound is gradually turned up.

2) CROSS FADE
In the midway of the PST TRANS RATE, PGM BUS sound and PST BUS sound are output crossing each other.

3) CUT FADE
PGM BUS sound momentarily becomes silent, while PST BUS sound is gradually turned up.

4) FADE CUT
PGM BUS sound is gradually turned down and PST BUS sound momentarily becomes loud at the end of the PST TRANS RATE.

(3) OVER TRANSITION section

⑩ OVER TRANS (Over Transition) button

To turn on/off the OVER BUS operation at the time set by the OVER TRANS RATE ⑪ (see the following). This functions in a toggle action, and the indicator lights in operation. If the switch is pressed in the midway of the operation, the effect is inverted.

⑪ OVER TRANS RATE (Over Transition Rate) indicator

Indicates time for the OVER TRANS operation on a unit of frame (999 frames at maximum).

⑫ OVER TRANS RATE SET & RESET buttons

Every pressing the SET button increases the display in numerals. Since it does not affect the upper figure, the displayed numeral changes from 9 to just 0. By pressing the RESET button, the display is reset to "000".

(4) OTHERS

⑬ REMOTE switch/indicator

When this indicator is lighted up, remote control of transition and crosspoint of BUS sounds becomes operative by the serial interface. After completion of remote control, such operations can be performed manually.

By pressing this switch again the remote control is cleared off, and only manual control is operative.

⑭ GPI (General Purpose Interface) SELECT switch

If a VTR editer which has only one GIP output terminal is connected, use this switch to select the GPI.

By shortcircuiting COM and SELECT terminals of the GPI INPUT connector on the rear panel, effects (such as OVER TRANS, PST CUT, PST TRANS) selected by the GPI SELECT switch can be realized. For shortcircuiting, it is required a time for one or more frames (more than 33 msec). To repeat such an effect by this means, open the circuit between COM and SELECT once and then make a shortcircuit again.

3. MEMORY SECTION

⑮ STORE switch

By pressing this switch the present condition (crosspoint, transition rate, cross fade ramp mode) is stored in the memory with the displayed MEMORY number. The stored date will be kept for more than two weeks.

⑯ READ switch

Pressing this switch reads stored data of the displayed MEMORY No. out of the memory to be used for coming operation.

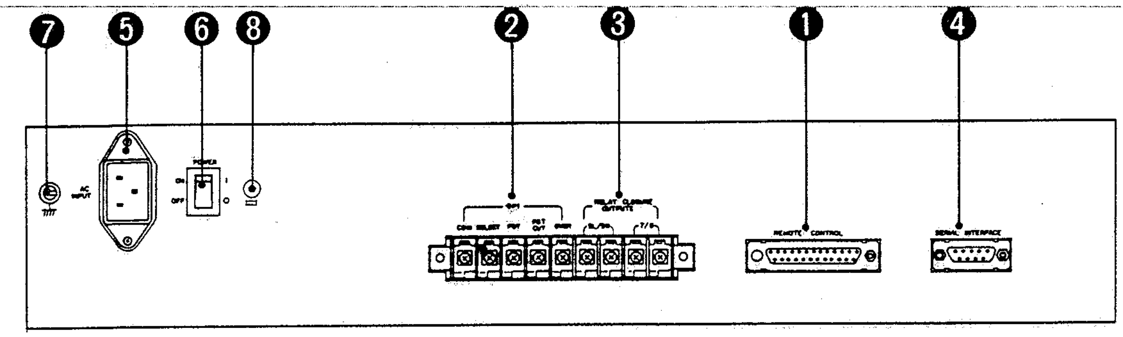
⑰ MEMORY number indicator

Capable for 100 EVENT memories.

⑱ EVENT MEMORY SET button

Every pressing the SET button increases a numeral one after another. Continuous pressing the button returns the displayed numeral from 9 to 0 not affecting the upper figure.

■ REAR PANEL (MI-F30)



❶ REMOTE CONTROL connector

For connection with the MI-3000 Mixer's REMOTE CONTROL connector (25P D. SUB) with the provided 25-pin cable. As a result of connection between MI-3000 and MI-F30, remote control of the following operations can be performed.

1) Turning on/off the PGM switch of every input channel.
2) Level control by the VCA at the stage previous to the channel fader.
3) Switchover of the SOURCE/TAPE RETURN of the monitor section.

❷ GPI INPUT connector

1) Function of contact between COM AND OVER is equivalent to that of the OVER TRANS switch pressed.
2) Similarly to the above, functions of contact between COM and PST CUT and between COM and PST TRANS are equivalent to those when the PST CUT switch and the PST TRANS switch are pressed, respectively.
3) Contact between COM and SELECT functions equivalent to an effect selected by the GPI SELECT switch on the front panel.

③ RELAY CLOSURE OUTPUT connectors

For controlling or tallying external equipment. Contact output can be set to a momentary contact (0.5 second approx.) or continuous output (setting position at shipment).

For detail of this setting, refer to the Installation Section of this manual.

When signals of 7/8 channels or 9L/9R channels of the OVER BUS are output, terminals corresponding to the output channels are shortcircuited for the contact output.

④ SERIAL INTERFACE

For remote control of this unit by serial data communication with the KM-3000 Component Special Effect Equipment.

⑤ AC INPUT connector

Connect the provided power cord to this connector.

⑥ POWER switch

Switching on turns on the power. When this switch is set to OFF position, power is turned on and off by the MI-3000's power switch.

⑦ GROUND terminal

To ground the unit with wire.

⑧ VOLTAGE SELECTOR (E version only)

EG type : AC 220 V can be selected. 220 V
EK type : AC 240 V can be selected. 240 V

MI-F30 EXAMPLE OF EFFECTS

In the case there are such inputs as the following to the buses.

OVER BUS: Effect sound
PGM BUS : Announcer's voice
PST BUS : Music

		OVER BUS indicator lights faintly.		OVER BUS indicator lights brightly.	
		Before Effect	After Effect	Before Effect	After Effect
1	Only PST TRANS is turned ON.	Voice	Music	Voice + Effect sound	Music + Effect sound
2	Only OVER TRANS is turned ON.	Voice	Voice + Effect sound	Voice + Effect sound	Voice
3	PST TRANS & OVER TRANS are turned ON.	Voice	Music + Effect sound	Voice + Effect sound	Music

SERIAL INTERFACE (MI-F30)

■ AUDIO FOLLOW VIDEO MODE

By utilizing the serial interface, the MI-F30 can be used in the Audio Follow-up Video Mode in combination with a special effects generator KM-3000 (option).

In this mode, MI-F30 is operated synchronously with KM-3000. If the preset order of the audio source connected to MI-3000 is the same as that of the video source connected to KM-3000, audio output of MI-3000 follows the video output of KM-3000.

MI-F30 receives such commands as crosspoint selection of OVER BUS, PGM BUS, PST BUS, setting of TRANSITION RATE, PST CUT, AUTO TRANSITION, and FADE-TO-BLACK, etc. from KM-3000.

■ Pin Layout of Serial Interface

Pin No.	RS-422	RS-232C
1	FRAME GROUND	FRAME GROUND
2	TRANSMIT A	TRANSMIT
3	RECEIVE B	FRAME GROUND
4	RECEIVE COMMON	RECEIVE COMMON
5	NC	NC
6	TRANSMIT COMMON	TRANSMIT COMMON
7	TRANSMIT B	NC
8	RECEIVE A	RECEIVE
9	FRAME GROUND	FRAME GROUND

At shipment, the Serial Interface is set as follows:
Audio Follow Video Mode: "RS-422", Baud rate: "38.4 K" and for "Non Parity".

If you want to change the setting, consult your JVC dealer. (Will be charged.)

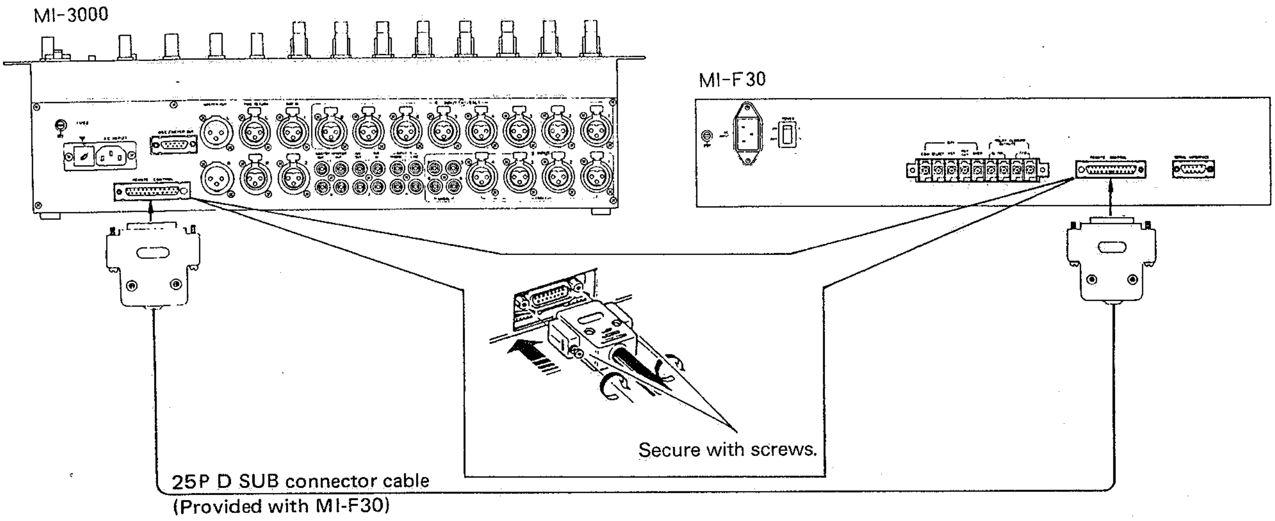
For detail of operation of KM-3000, refer to the KM-3000's instruction book.

REMOTE CONTROL OF MI-3000 BY MI-F30

Remote control by MI-F30 is effectual for control of input level of each channel, turning on/off of the PGM switch and switchover of the SOURCE/TAPE RETURN switch on the MI-3000.
(MI-3000 and MI-F30 are sold separately.)

■ Connection

Connect the remote control terminals of MI-3000 and MI-F30 with the 25-pin D SUB connector cable (provided with MI-F30). (See the figure below.)



■ Setup

1) Turn off the PGM switch of MI-3000.
2) Set MI-3000's channel balance by the TRIM volume control and the INPUT FADER control.
3) Set the MI-3000's SOURCE/TAPE RETURN switch to the "SOURCE" position.
4) Turn off the REMOTE switch of MI-F30.

Note: If MI-3000's PGM switch is set to "ON" position, remote control by MI-F30 is ineffectual for the channel corresponding to the switch turned on.

- For detail of operation, refer to the pages of "MI-3000 Names of Parts" (p. 4–10) and "MI-F30 Names of Parts" (p. 11–12).

■ Operation

1) Setting of crosspoint
   Press the PGM BUS, PST BUS and OVER BUS switches to set a crosspoint. Other BUS switches not to use should be turned off.
   The MI-3000's PGM indicator corresponding to the channel selected by MI-F30 comes on.
2) Set Transition Rate and Cross Fade Ramp.

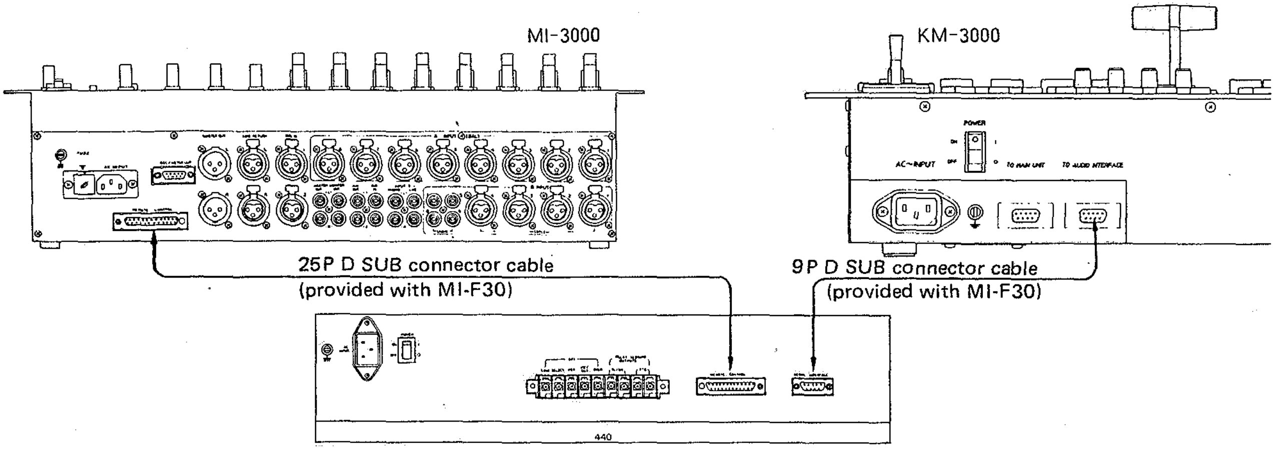
By pressing the PST TRANS, PST CUT and OVER TRANS buttons of MI-F30, sound generated by MI-3000 changes according to a pattern set by the above procedure.

AUDIO FOLLOW VIDEO OPERATION BY KM-3000

By use of the KM-3000 (Component Special Effects Generator – option) connected together with MI-3000 and MI-F30, audio follow video operation (simultaneously switching of picture and sound) can be performed.

■ Connection

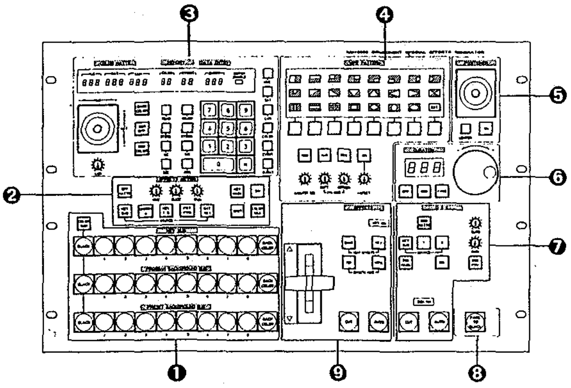
1) Connect the remote control terminals of MI-3000 and MI-F30 with a 25-pin D SUB connector cable provided with MI-F30.
2) Connect the serial interface terminals of MI-F30 and KM-3000 with a 9-pin D SUB connector cable provided with MI-F30.



■ Setup

1) Turn off the PGM switch of MI-3000 for each input channel.
2) Adjust sound volume of every channel of MI-3000 by the TRIM volume control and INPUT FADER control.
3) Turn on the REMOTE button of MI-F30.

■ Respondence to KM-3000 Front Panel



KM-3000

❶ CROSS POINT SELECT button group
❷ EFFECT KEYER group
❸ COLOR MATTE/MEMORY/DATA ENTRY group
❹ WIPE PATTERN group
❺ POSITIONER group
❻ DURATION group
❼ DSK group
❽ FADE-TO-BLACK button
❾ EFFECTS group

- Some of functions and controls of MI-F30 are not effectual for KM-3000's controls and its operations.

1. **Effectual controls and functions (on KM-3000)**
   1) CROSS POINT group
   2) DURATION group (except DSK)
   3) FADE-TO-BLACK button
   4) EFFECTS group (except MIX, WIPE)
2. **Ineffectual controls and functions (on KM-3000)**
   1) EFFECT KEYER group
   2) COLOR MATTE/MEMORY/DATA ENTRY group
   3) WIPE PATTERN group
   4) POSITIONER group
   5) DSK group

■ Setting of Cross Point

Cross point on MI-F30 is determined and set according to that set on KM-3000.

Cross points corresponding to KM-3000 and MI-F30 each other are shown in the table below.

KM-3000	MI-F30
KEY BUS	OVER BUS
PROGRAM BACKGROUND BUS	PROGRAM BUS
PRESET BACKGROUND BUS	PRESET BUS
BLACK, BACK COLOR	OFF
CH-1, 2, 3, 4, 5	CH-1/2, 3/4, 5/6, 7/8, 9L/9R
CH-6, 7, 8	OFF

■ Setting of Transition Rate

1) Set the DURATION group of KM-3000 to the EFFECT mode.
2) The same value of the duration set by the rotary dial of KM-3000 is transmitted to the OVER TRANS. rate and PST TRANS. rate of MI-F30.

■ Operation

1. Switchover between PGM BUS sound and PST BUS sound

(Condition: The BKGD button of KM-3000's NEXT EFFECTS section is turned on.)

1) CUT

By pressing the CUT button of KM-3000, switchover between PGM BUS and PST BUS is momentarily carried out at the crosspoint set previously.

2) AUT TRANS.

When AUTO TRANS. operation is performed on KM-3000, PGM BUS and PST BUS sounds are changed with each other according to the set crosspoint and transition rate.

3) FADER

If the FADER lever of KM-3000 is operated, PGM BUS and PST BUS sounds are turned over in operation. The changing pattern can be set by the CROSS FADE RAMP section of MI-F30.

2. Mixing of OVER BUS sound to PGM BUS sound

(Condition: The KEY button of the NEXT EFFECTS section of KM-3000 is turned on.)

1) CUT

CUT operation executed on KM-3000 mixes OVER BUS sound to PGM BUS sound at a moment.

2) AUTO TRANS.

AUTO TRANS. operation executed on KM-3000 mixes OVER BUS sound to PGM BUS sound according to the set transition rate.

3) FADER

Operation of KM-3000's FADER lever mixes PGM BUS sound to PST BUS sound at a rate of the lever's movement.

Note: If you don't want to synchronize operations of KM-3000's KEY BUS and MI-F30's OVER BUS, set the OVER BUS switch of MI-F30 to "OFF" position.
When the OVER BUS switch of MI-F30 is set to a position other than "OFF" (CH1/2–9L/9R) contrarily, MI-F30's OVER BUS is synchronized with KM-3000's KEY BUS operation.

3. To mix OVER BUS sound while changing sound of PGM BUS and PST BUS.

(Condition: The BKGD button and KEY button of the KM-3000's NEXT EFFECTS section.)

- If CUT, AUTO TRANS., or FADER operation is carried out on KM-3000, operation of above 1) or 2) is executed at the same time.

4. FADE IN/OUT of MASTER sound

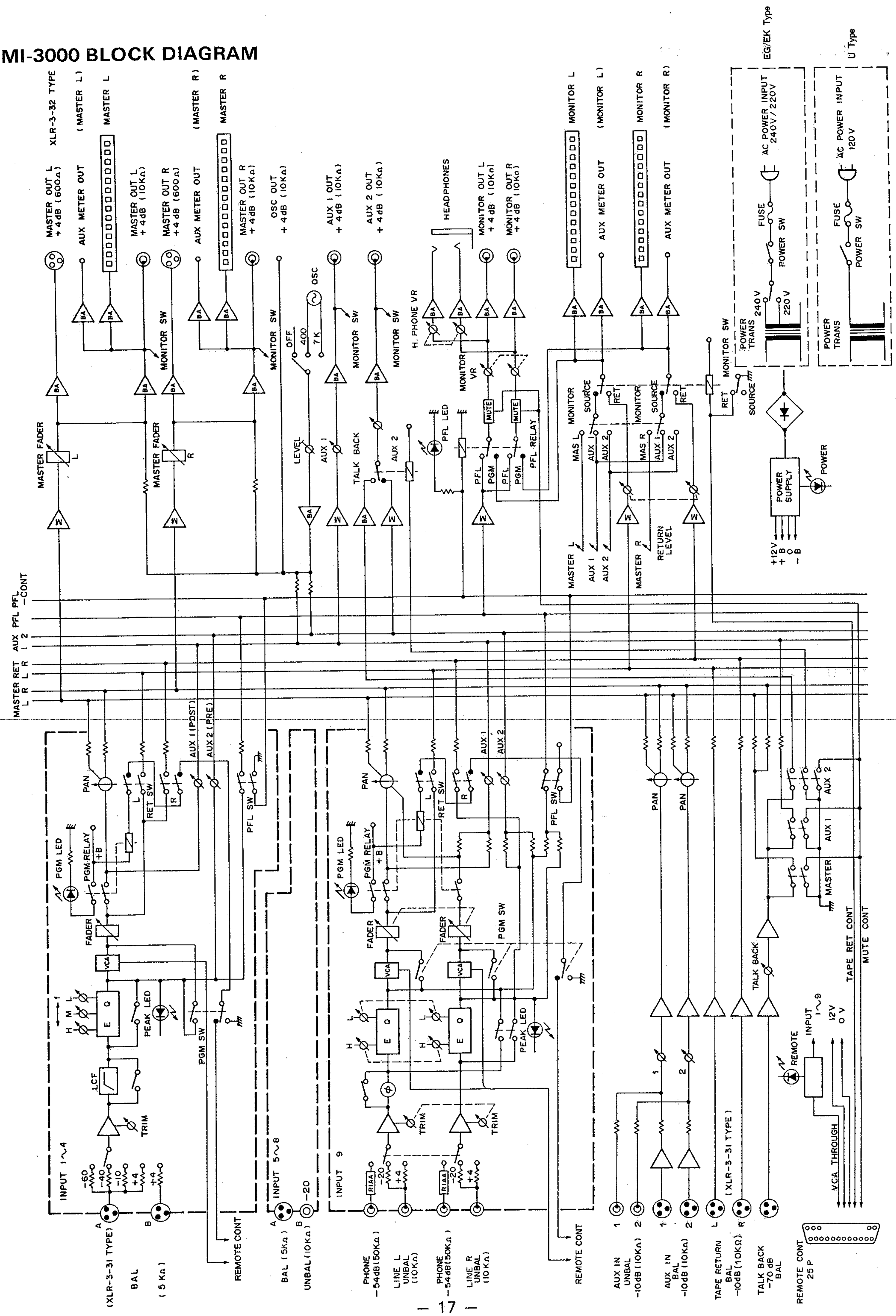
- If the FADE-TO-BLACK button of the KM-3000 is pressed, MASTER sound is faded in or out according to the duration time of the FADE mode.

For further detail of operations, refer to the Instruction Book of KM-3000.

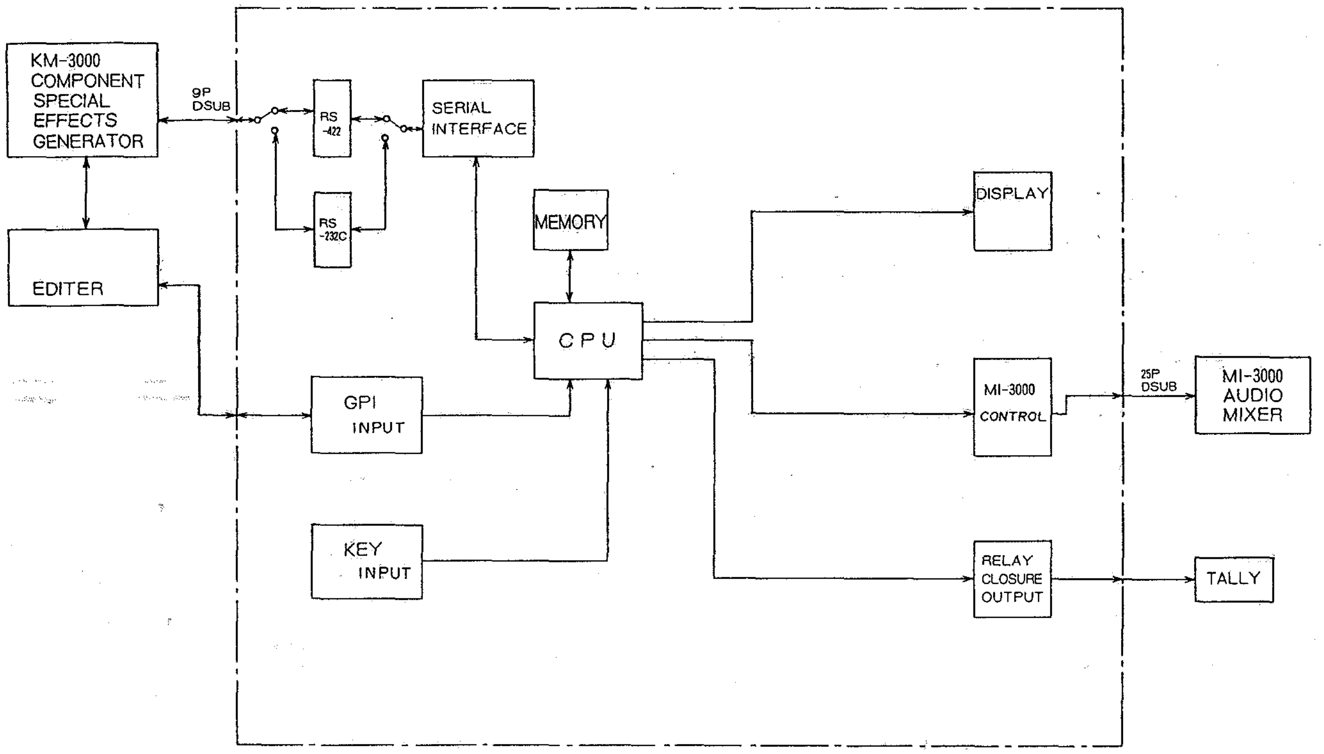
NOTE:

The GPI and Auto Trans operation on MI-F30 is not possible when fader level of KM-3000 is being operated.

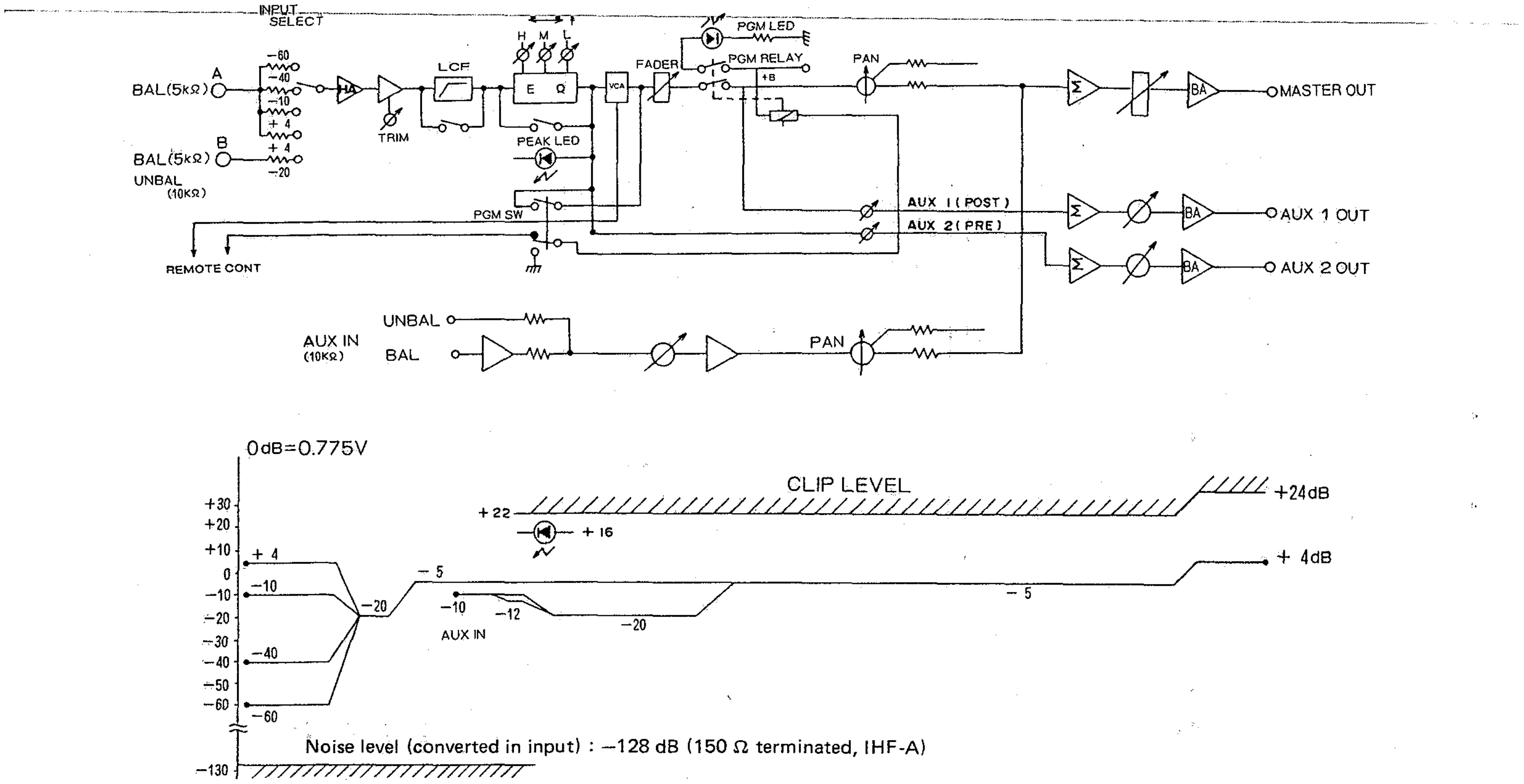
MI-3000 BLOCK DIAGRAM


XLR-3-32 TYPE
MASTER OUT L +4dB (600Ω)
AUX METER OUT
(MASTER L)
MASTER L
MASTER OUT L +4dB (10KΩ)
MASTER OUT R +4dB (600Ω)
AUX METER OUT
(MASTER R)
MASTER R
MASTER OUT R +4dB (10KΩ)
OSC OUT +4dB (10KΩ)
AUX 1 OUT +4dB (10KΩ)
AUX 2 OUT +4dB (10KΩ)
HEADPHONES
MONITOR OUT L +4dB (10KΩ)
MONITOR OUT R +4dB (10KΩ)
MONITOR L
(MONITOR L)
AUX METER OUT
MONITOR R
(MONITOR R)
AUX METER OUT
EG/EK Type
AC POWER INPUT 240V/220V
FUSE
POWER SW
240V
220V
POWER TRANS
U Type
AC POWER INPUT 120V
FUSE
POWER SW
POWER TRANS
POWER
POWER SUPPLY
+12V
+B
0
−B
BA
MONITOR SW
MONITOR SW
OSC
OFF
400
7K
MONITOR SW
MONITOR SW
H. PHONE VR
MONITOR VR
MUTE
PFL LED
PFL RELAY
PFL
PGM
PFL
PGM
MONITOR SOURCE
RET
MONITOR SOURCE
RET
MONITOR SW
RET
SOURCE
MAS L
AUX 1
AUX 2
MAS R
AUX 1
AUX 2
MASTER FADER
L
MASTER FADER
R
LEVEL
AUX 1
TALK BACK
AUX 2
M
MASTER L
AUX 1
AUX 2
MASTER R
RETURN LEVEL
MASTER L R
RET L R
AUX 1 2
PFL
PFL −CONT
PAN
RET SW
L
R
AUX 1 (POST)
AUX 2 (PRE)
PFL SW
PGM LED
PGM RELAY
+B
FADER
VCA
H
M
L
f
E Q
PEAK LED
PGM SW
LCF
TRIM
−60
−40
−10
−20
+4
+4
INPUT 1∼4
A
(XLR-3-31 TYPE)
B
BAL
(5KΩ)
REMOTE CONT
INPUT 5∼8
A
B
−20
BAL (5KΩ)
UNBAL (10KΩ)
INPUT 9
PAN
RET SW
AUX 1
AUX 2
PFL SW
PGM LED
PGM RELAY
+B
FADER
FADER
PGM SW
VCA
VCA
L
H
E Q
PEAK LED
TRIM
TRIM
RIAA
−20
+4
PHONE −54dB (50KΩ)
LINE L UNBAL (10KΩ)
PHONE −54dB (50KΩ)
LINE R UNBAL (10KΩ)
REMOTE CONT
PAN
PAN
1
2
AUX IN UNBAL −10dB (10KΩ)
AUX IN BAL −10dB (10KΩ)
1
2
1
2
L
R
(XLR-3-31 TYPE)
TAPE RETURN BAL −10dB (10KΩ)
TALK BACK −70dB BAL
TALK BACK
AUX 2
AUX 1
MASTER
TAPE RET CONT
MUTE CONT
REMOTE
INPUT 1∼9
12V
0V
VCA THROUGH
REMOTE CONT 25P

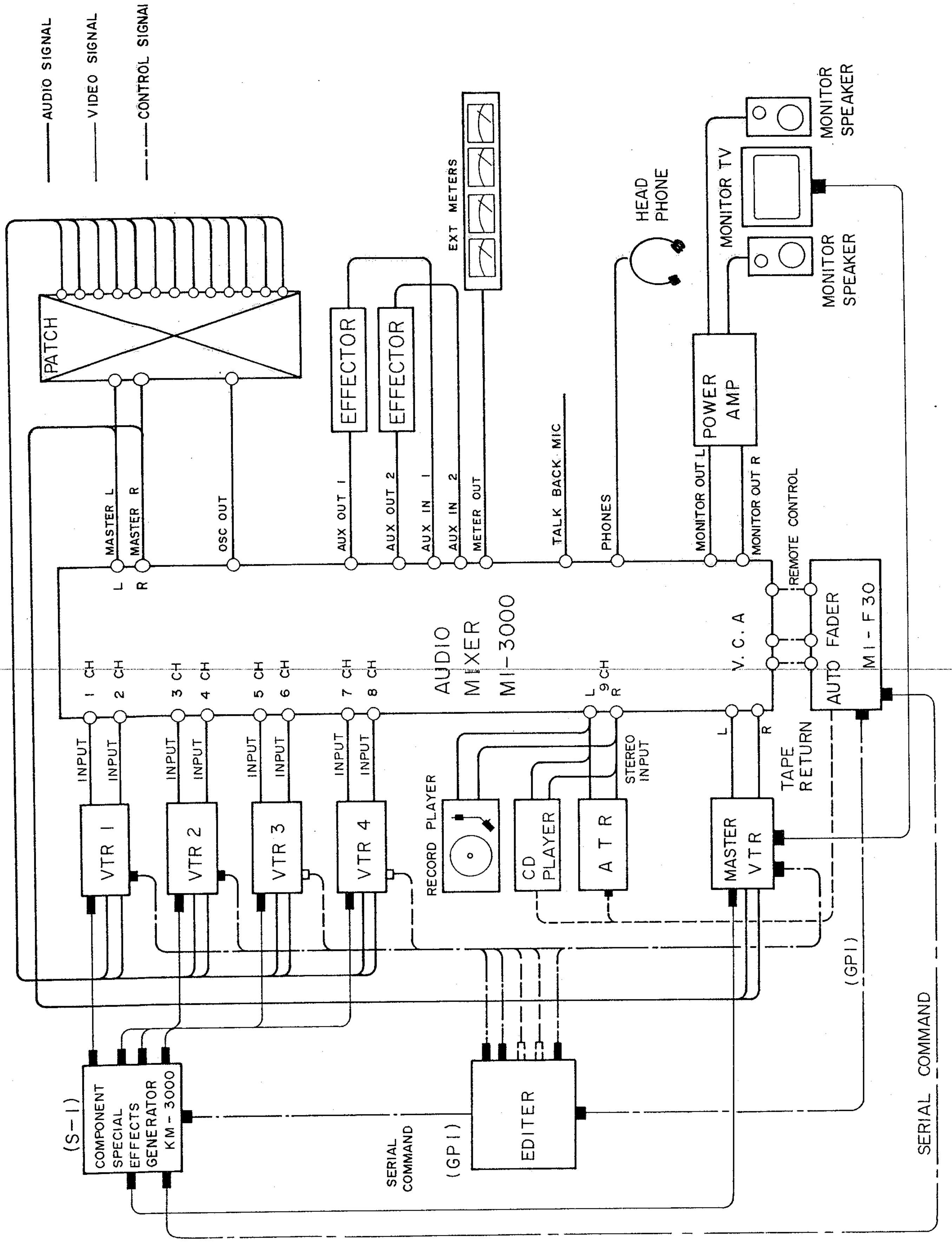
MI-F30 BLOCK DIAGRAM


KM-3000 COMPONENT SPECIAL EFFECTS GENERATOR
EDITER
9P DSUB
RS -422
RS -232C
SERIAL INTERFACE
MEMORY
CPU
GPI INPUT
KEY INPUT
DISPLAY
MI-3000 CONTROL
RELAY CLOSURE OUTPUT
25P DSUB
MI-3000 AUDIO MIXER
TALLY

MI-3000 LEVEL DIAGRAM


INPUT SELECT
A
BAL(5kΩ)
B
BAL(5kΩ)
UNBAL (10KΩ)
−60
−40
−10
+4
+4
−20
HA
TRIM
LCF
H M L
E Q
PEAK LED
VCA
FADER
PGM LED
PGM RELAY
+B
PGM SW
REMOTE CONT
PAN
Σ
BA
MASTER OUT
AUX 1 (POST)
AUX 2 (PRE)
AUX 1 OUT
AUX 2 OUT
AUX IN (10KΩ)
UNBAL
BAL
PAN
0dB=0.775V
CLIP LEVEL
+22
+16
+24dB
+4dB
+30
+20
+10
0
−10
−20
−30
−40
−50
−60
−130
+4
−10
−40
−60
−20
−5
−10
−12
AUX IN
−20
−5
Noise level (converted in input) : −128 dB (150 Ω terminated, IHF-A)

CONNECTION WITH PERIPHERAL EQUIPMENT


AUDIO SIGNAL
VIDEO SIGNAL
CONTROL SIGNAL
PATCH
EFFECTOR
EFFECTOR
EXT METERS
HEAD PHONE
MONITOR TV
MONITOR SPEAKER
MONITOR SPEAKER
POWER AMP
MASTER L
MASTER R
L
R
OSC OUT
AUX OUT 1
AUX OUT 2
AUX IN 1
AUX IN 2
METER OUT
TALK BACK MIC
PHONES
MONITOR OUT L
MONITOR OUT R
REMOTE CONTROL
AUDIO MIXER MI-3000
V. C. A
AUTO FADER MI-F30
1 CH
2 CH
3 CH
4 CH
5 CH
6 CH
7 CH
8 CH
L 9 CH R
INPUT
INPUT
INPUT
INPUT
INPUT
INPUT
INPUT
INPUT
STEREO INPUT
L
R
TAPE RETURN
VTR 1
VTR 2
VTR 3
VTR 4
RECORD PLAYER
CD PLAYER
A T R
MASTER VTR
(GPI)
SERIAL COMMAND
(S-I)
COMPONENT SPECIAL EFFECTS GENERATOR KM-3000
EDITER
(GPI)
SERIAL COMMAND

MI-3000 SPECIFICATIONS (0 dB = 0.775 V)

Frequency characteristic : 20 Hz – 20 kHz$^{+0}_{-2}$ dB (at 1 kHz)
Harmonic distortion : Less than 0.08%
(20 Hz – 20 kHz, +20 dBm)
Equivalent input noise : Less than –128 dB (input terminated with 150 Ω resistance, IHF A-weighted)
Crosstalk : Less than –70 dB (1 kHz, between channels, between MASTER and AUX outputs)
Equalizer : HIGH ; 10 kHz ± 15 dB (shelving)
MID ; 150 Hz – 7 kHz ± 15 dB (peaking)
LOW ; 100 Hz ± 15 dB (shelving)
Max. output : +24 dB
Low cut filter : 75 Hz –12 dB/oct.
Oscillator : Frequency 1 kHz, 7 kHz
Peaking indicators (LED) : Lights –6 dB under the clipping level of every input head amp.
VU meters (0 = +4 dB) : Master . . . . x 2
Monitor . . . . x 2
Power supply : 120 V AC, 50/60 Hz (U type)
220 V AC, 50/60 Hz (EG type)
240 V AC, 50/60 Hz (EK type)
Power consumption : 58 W
Dimensions (W x H x D) : 482 x 148 x 399 mm
(19" x 5-13/16" x 15-11/16")
Weight : 12.5 kg (27.56 lb)
Attachment : Power cord . . . . x 1
Accessory : Instruction manual . . . . . . x 1

MI-F30 SPECIFICATIONS

Continuous rating of relay: 100 mA, DC 12 V
GPI input : 4 mA max.
Serial interface
Connector : 9-pin D SUB socket
Baud rate : 38.4 K, 19.2 K, 9.6 K and 4.8 K
System : RS-422 or RS-232C
Remote controller : 25-pin D SUB socket
(for connection to MI-3000)
Power supply : 120 V AC, 50/60 Hz (U type)
220 V AC, 50/60 Hz (EG type)
240 V AC, 50/60 Hz (EK type)
Power consumption : 20 W
Dimensions (W x H x D) : 482 x 88 x 196 mm
(19" x 3-7/16" x 7-3/4")
Weight : 5.5 kg (12.13 lb)
Attachments : Connection cable 25P (5 m) x 1
Connection cable 9P (3 m) . x 1
Power cord . . . . x 1
Accessory : Instruction manual . . . . . . x 1

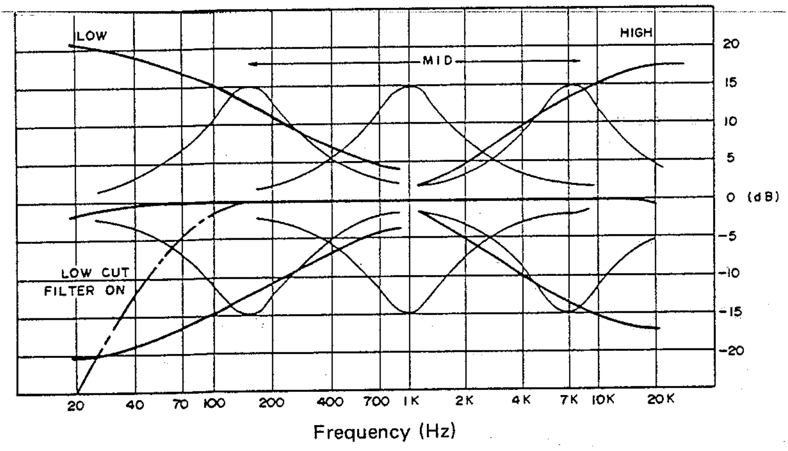
MI-3000 INPUT/OUTPUT SPECIFICATIONS

Input terminal		Input level	Input impedance		Adaptive impedance	Connector
INPUT A (CH 1–8)		–60,–40,–10,+4 dB	5 kΩ or more	Balanced	Mic & Line of 50–600 Ω	XLR-3-31 (female) or equiv.
INPUT B (CH 1–4)		+4 dB	5 kΩ	Balanced	Line, less than 600 Ω	XLR-3-31 (female) or equiv.
(CH 5–8)		–20 dB	10 kΩ	Unbalanced	Line, less than 10 kΩ	Standard pin jack
STEREO INPUT	LINE	–20, +4 dB	10 kΩ	Unbalanced	Line, less than 10 kΩ	Standard pin jack
L, R (CH 9)	PHONO	–54 dB	50 kΩ	Unbalanced	Player output less than 50 kΩ	Standard pin jack
AUX IN 1, 2		–10 dB	10 kΩ	Balanced	Line, less than 10 kΩ	XLR-3-31 (female) or equiv.
		–10 dB	10 kΩ	Unbalanced	Line, less than 10 kΩ	Standard pin jack
TAPE RETURN L, R		–10 dB	10 kΩ	Balanced	Line, less than 10 kΩ	XLR-3-31 (female) or equiv.
TALK BACK MIC		–70 dB	600 Ω	Balanced	Mic of 50–600 Ω	XLR-3-31 (female) or equiv.

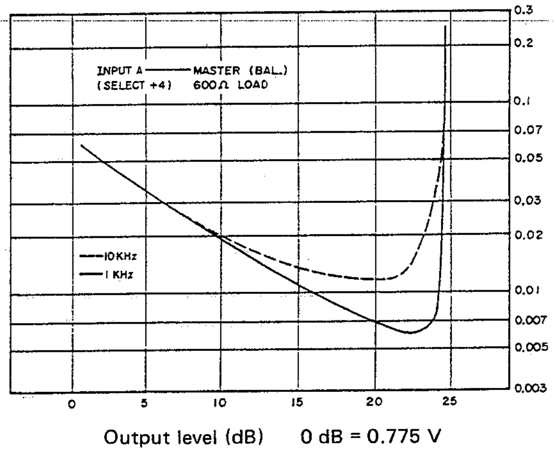
Output terminal	Output level	Output impedance		Adaptive impedance	Connector
MASTER OUT L, R	+4 dB	200 Ω	Balanced	Line, less than 600 Ω	XLR-3-32 (male) or equiv.
	+4 dB	100 Ω	Unbalanced	Line, less than 10 kΩ	Standard pin jack
AUX OUT 1, 2	+4 dB	100 Ω	Unbalanced	Line, less than 10 kΩ	Standard pin jack
MONITOR OUT L, R	+4 dB	100 Ω	Unbalanced	Line, less than 10 kΩ	Standard pin jack
OSC OUT	+4 dB	100 Ω	Unbalanced	Line, less than 10 kΩ	9P D SUB, No. 6
PHONES	100 mW max.	8 Ω		More than 16 Ω	Standard stereo phono jack (φ 6.3)

MI-3000 CHARACTERISTICS

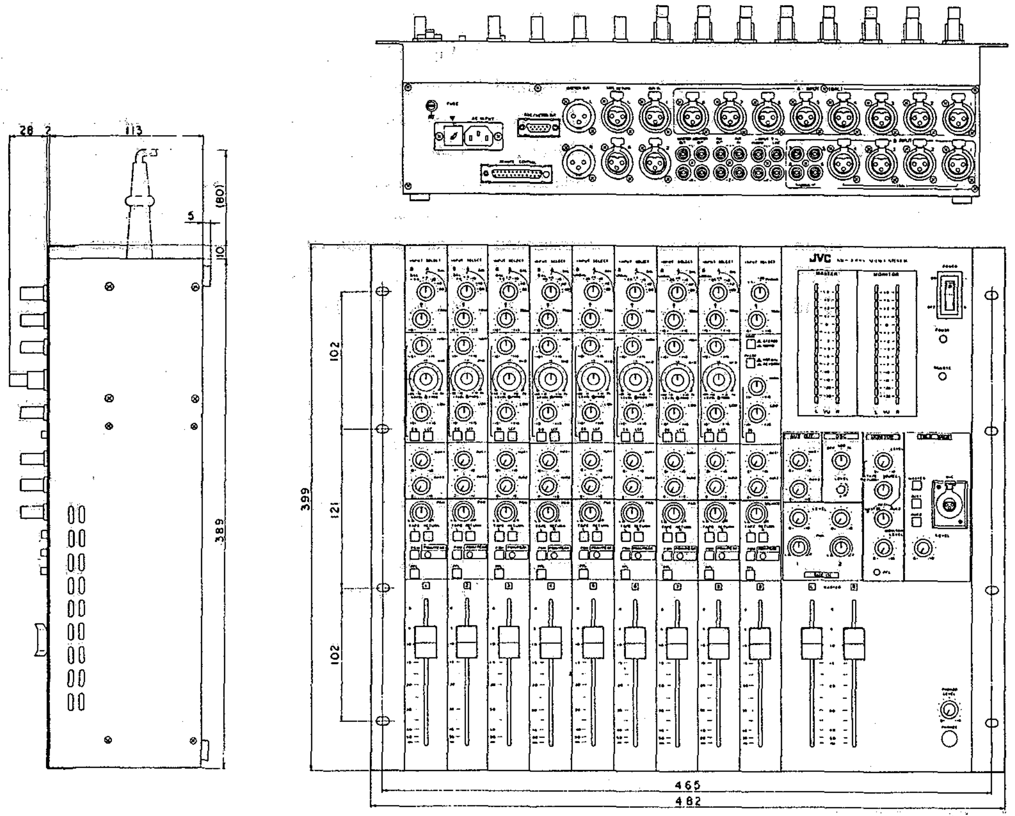
INPUT EQUALIZER CHARACTERISTICS



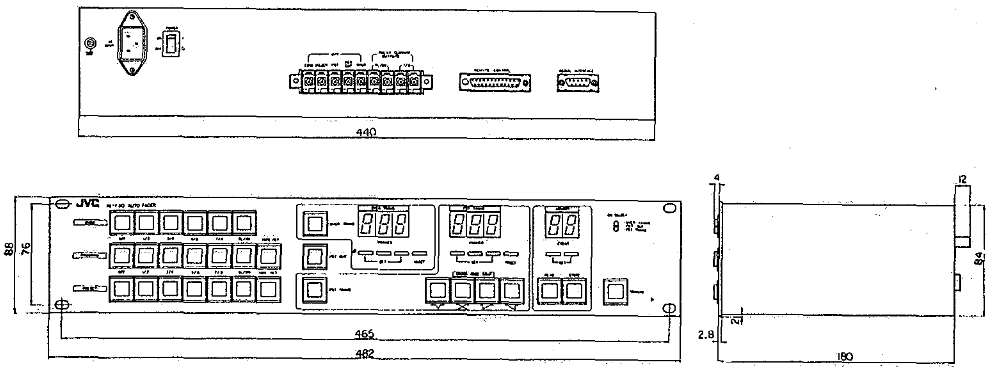
THD CHARACTERISTICS



MI-3000 DIMENSION DIAGRAM


28
2
113
(80)
5
110
389
399
102
121
102
JVC
465
482

MI-F30 DIMENSION DIAGRAM


440
JVC
88
76
465
482
4
12
84
21
2.8
180

Note: Voltage selector is provided only in E version. (Refer to page 12.)

JVC

VICTOR COMPANY OF JAPAN, LIMITED

Printed in Jap
SS96385

SECTION 1
DISASSEMBLY

1.1 RE-ARRANGEMENT OF CONNECTORS

For mounting the unit on a rack, if it is inconvenient to connect connection cables to the connectors on the rear panel, it is recommended to move the connectors to the bottom of the unit from the rear.

1. Remove six screws ① from the bottom of the unit and remove the blank panel.

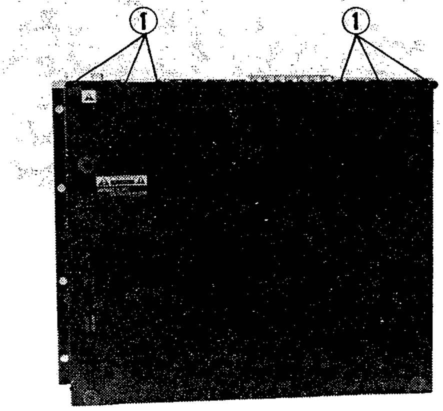


Fig. 1-1

2. Remove four screws ② from the connector panel to remove the connector panel, and then, fix the blank panel removed in the above step 1 to the rear with four screws ②.

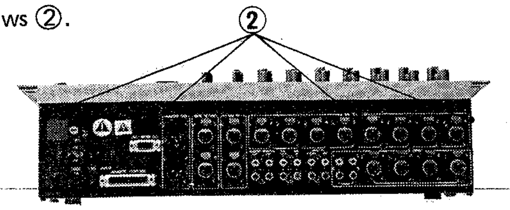


Fig. 1-2

3. Fix the connector panel removed in the above step 2 to the bottom with six screws ① which were once removed together with the panel.

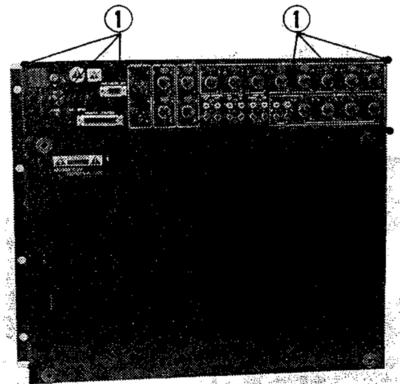


Fig. 1-3

1.2 PHANTOM POWER SOURCE

Some of condenser microphones can be supplied +48 V power externally. The phantom power line supplies external power to the condenser microphone through the microphone line.

Note: When phantom power is supplied to a channel, set the FADER control for the channel to the minimum position to avoid noise generation at turning the power on/off.

1. Connect a jump wire to R221 of the Input board.

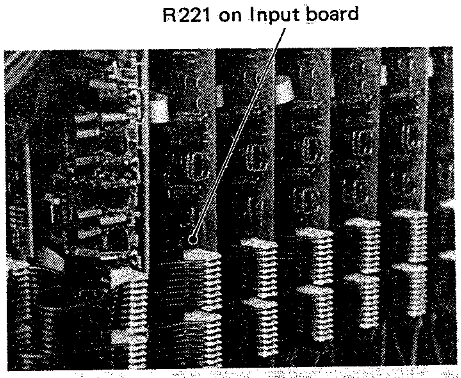


Fig. 1-4

2. Connect a jump wire to J800 of the Power LED board.

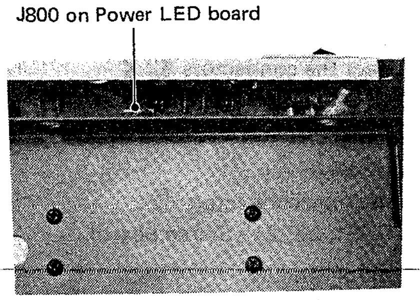


Fig. 1-5

1.3 REPLACEMENT OF FUSE

When replacing the blown fuse, examine the reason why it blew first. If there is something wrong, repair it before replacing the fuse in order to prevent the unit from further trouble.

1. Disconnect the power cord from the AC outlet and turn off the power switch.
2. Remove the fuse cover with an ordinary (—) screwdriver. Fuse is set inside the cover.
   For safety and protection of the unit, use a fuse of the specified part number.

Note: For the parts number of F1, refer to the section 4.2.5 'Connector panel assembly parts list'.

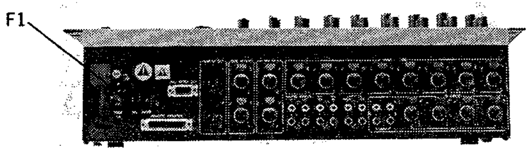


Fig. 1-6

1.4 REMOVAL OF MAIN PARTS

1.4.1 Front panel

1. Remove the bottom cover. (Refer to Section 1.4.5.)
2. Disconnect the wiring between the Cannon type connector (3P) and CN17 of the Talkback board.
3. Remove two screws ③, two screws ④ on front, and eleven fader knobs Ⓑ to remove the front panel.

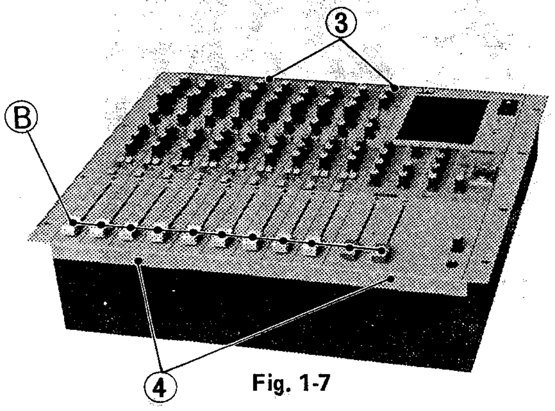


Fig. 1-7

1.4.2 Various modules

1. Input Module
   1) Remove two screws ⑤.
   2) Disconnect the connectors Ⓒ.
      (Ⓒ : CN01, 02, 03 - Input board)
2. Stereo Module
   1) Remove two screws ⑥.
   2) Disconnect the connectors Ⓓ.
      (Ⓓ : CN01, 02, 21 - Stereo board)
3. Master Monitor Module
   1) Remove four screws ⑦.
   2) Disconnect the connectors Ⓔ, Ⓕ, Ⓖ and Ⓚ.
      (Ⓔ : CN07, 08, 01, 02, 12, 14 - Master L board)
      (Ⓕ : CN06, 01, 02, 12 - Master R board)
      (Ⓖ : CN04, 22, 23, 13, 01, 02, 09, 12 - Monitor board)
      (Ⓚ : CN05, 10 - Power Supply board)
   3) Disconnect the trans. connector and fuse connector Ⓗ.

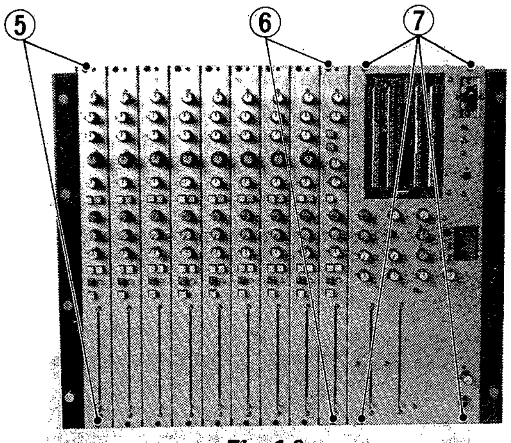


Fig. 1-8

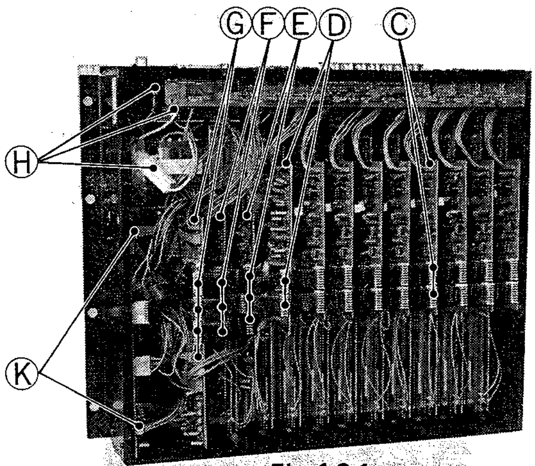


Fig. 1-8-1

1.4.3 Main parts of Master Monitor Module

1. Power switch
   1) Remove two screws ⑧.
   2) Disconnect the connectors Ⓘ and Ⓙ.ten the fastners
2. LED board
   1) Remove two screws ⑨. (The other side is hooked.)
   2) Disconnect the connector Ⓚ.
      (Ⓚ : CN30 - Monitor board)
3. Talkback board
   1) Remove a screw ⑩.
   2) Remove the volume control knob and a nut ⑪ securing the volume control.
   3) Disconnect the connector Ⓛ.
      (Ⓛ : CN14 - Master L board)
4. Headphone board
   1) Remove the Power Supply board. (Refer to Section 1.4.6.)
   2) Remove the volume control knob.
   3) Remove the volume control and two nuts ⑫ securing the phono jack.
   4) Disconnect the connector Ⓜ.
      (Ⓜ : CN10 - Power Supply board)

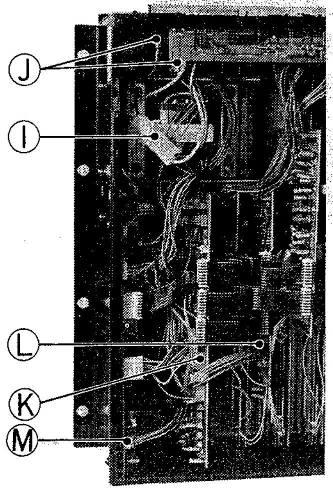


Fig. 1-9-1

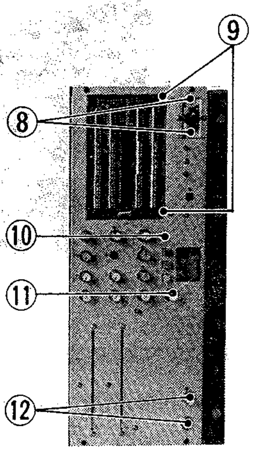


Fig. 1-9

1.4.4 Power transformer

1. Disconnect the transformer connector Ⓝ and connector Ⓞ.
2. Disconnect the connector Ⓟ.
   (Ⓟ : CN16 - Power Supply board)
3. Remove four screws ⑬.

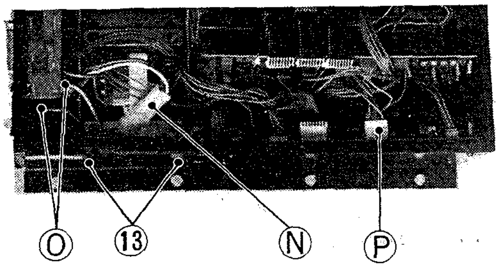


Fig. 1-10

4. Remove a screw ⑭ securing the grounding wire (green).
5. Remove four screws ⑮.

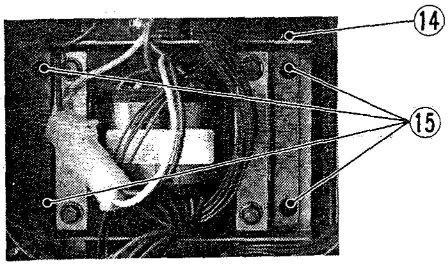


Fig. 1-10-1

1.4.5 Bottom cover

1. Remove six screws ⑯.
2. Remove six screws ⑰.

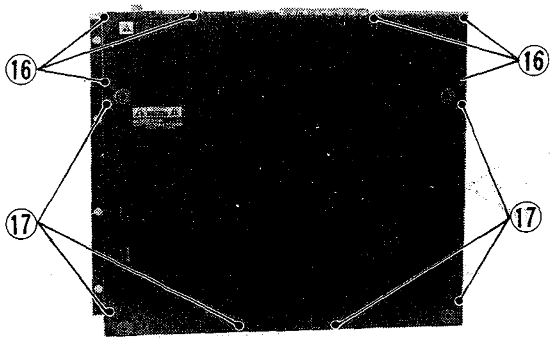


Fig. 1-11

1.4.6 Power supply board

1. Disconnect connectors Ⓠ and Ⓡ.
   (Ⓠ : CN05, 20, 01, 16, 10 - Power Supply board)
   (Ⓡ : CN22, 13 - Monitor board)
2. Remove four screws ⑱.
   The power supply board and the heat sink are removed together with.
3. Remove three screws ⑲.
4. Remove four screws ⑳ of the board holder to separate the board from the heat sink.

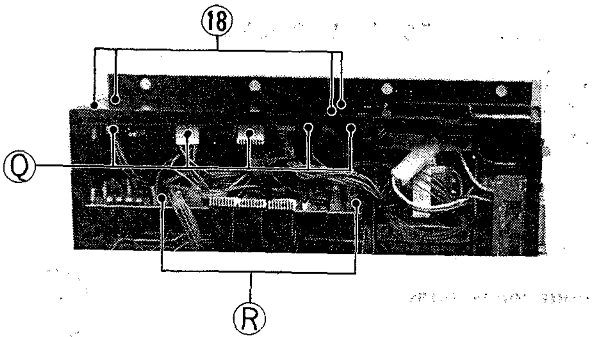


Fig. 1-12

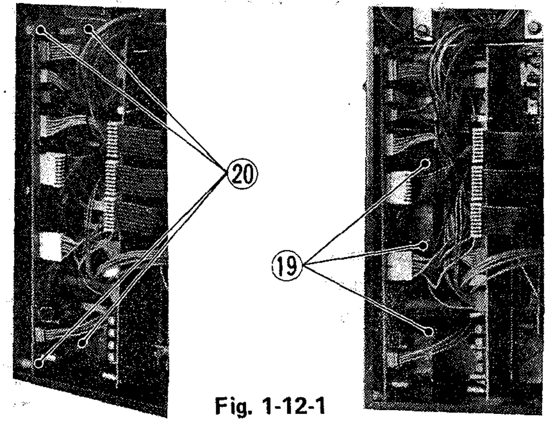


Fig. 1-12-1

1.4.7 Input board

1. Remove the volume control knobs.
2. Remove nuts ㉑ securing volume controls.
3. Disconnect the connector CN15.

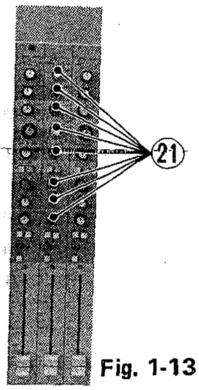


Fig. 1-13

1.4.8 Fader board

1. Disconnect the connector from the board.
   - Input Module : CN15 - Input board
   - Stereo Module : CN11 - Stereo board
   - Master Monitor Module : CN18 - Master (L) board
     CN19 - Master (R) board
2. Remove two screws ㉒

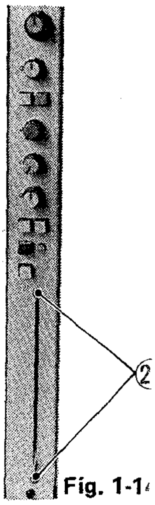


Fig. 1-1

SECTION 2
CHECKUP OF OPERATIONS

2.1 REQUIRED TEST EQUIPMENT

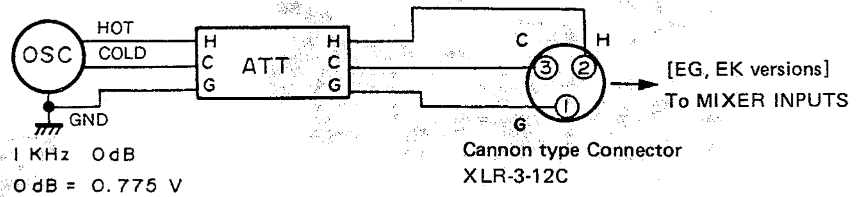
1. AF OSC (low frequency oscillator)
2. VTVM (vacuum-tube voltmeter)
3. ATT (variable attenuator)
4. Oscilloscope
5. Distortion meter
6. Digital DC voltmeter

2.2 CONNECTIONS

1. Input connections

1) Balanced input

- INPUT A: 1–8 CH, INPUT B: 1–4 CH
- TALK BACK
- AUX IN 1, 2
- TAPE RETURN L, R

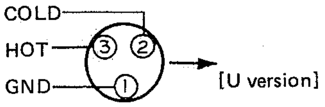


OSC
HOT
COLD
GND
H
C
G
ATT
H
C
G
C
H
③
②
①
G
[EG, EK versions]
To MIXER INPUTS
Cannon type Connector
XLR-3-12C

1 KHz 0dB

0 dB = 0.775 V

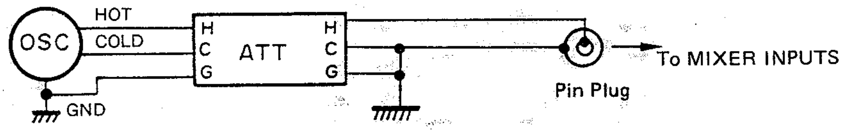
- OSC : with balanced or unbalanced earth lift
- ATT : 600 Ω unbalanced
- ATT's reading should be amplification degree.



COLD
HOT
GND
③
②
①
[U version]

2) Unbalanced input

- INPUT B: 5–8 CH
- STEREO < LINE / PHONO
- AUX IN 1, 2



OSC
HOT
COLD
GND
H
C
G
ATT
H
C
G
To MIXER INPUTS
Pin Plug

1 KHz 0dB

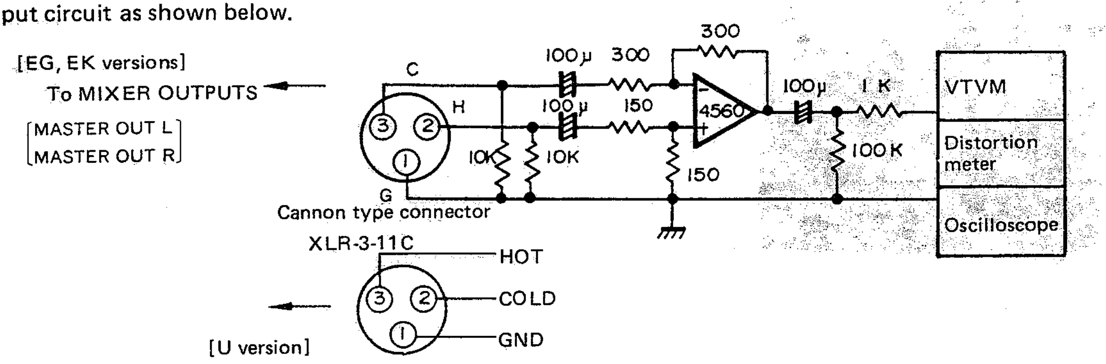
0 dB = 0.775 V

- OSC : with balanced or unbalanced earth lift
- ATT : 600 Ω unbalanced
- ATT's reading should be amplification degree.

2. Output connections

1) Balanced output

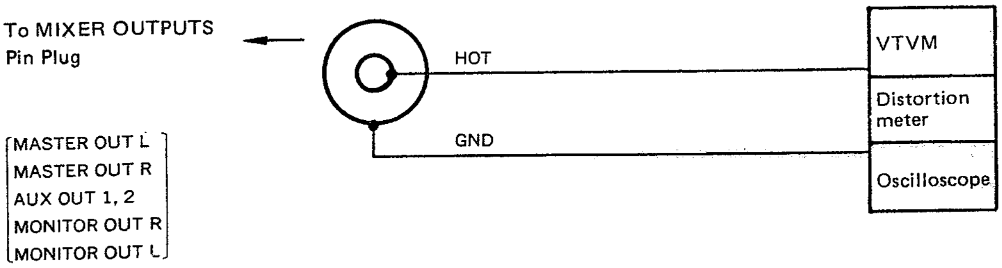
It is required to use a balanced input measuring equipment since output is BTL balanced.
For measuring unbalanced input, use such a balanced input circuit as shown below.



[EG, EK versions]
To MIXER OUTPUTS
MASTER OUT L
MASTER OUT R
C
H
③
②
①
G
Cannon type connector
XLR-3-11C
100μ
300
100μ
150
10K
10K
300
4560
150
100μ
1K
100K
VTVM
Distortion meter
Oscilloscope
HOT
COLD
GND
[U version]

2) Unbalanced output

Use a standard pin plug of 10 kΩ load.



To MIXER OUTPUTS
Pin Plug
MASTER OUT L
MASTER OUT R
AUX OUT 1, 2
MONITOR OUT R
MONITOR OUT L
HOT
GND
VTVM
Distortion meter
Oscilloscope

2.3 SETTING OF CONTROLS

Unless otherwise specified, set controls and switches to the following positions.

Control	Position	Control	Position	Control	Position
• Input module		**• Stereo input module**		**• Others**	
INPUT SELECT SW	−60	INPUT SELECT SW	−20	MASTER FADER L, R	MAX
TRIMMER VR	Center	TRIMMER VR	Center	AUX OUT 1, 2	MIN (MAX at measurement)
HIGH/MID/LOW EQ	Center	MODE SELECT SW	STEREO	OSC SELECT SW	OFF
EQUALIZER SW	OFF	PHASE SW	NORMAL	OSC LEVEL Control	Center
LOW CUT FILTER SW	OFF	HIGH/LOW EQ	Center	AUX IN 1, 2 LEVEL	MIN (MAX at measurement)
AUX 1 Volume Control	MIN (MAX at measurement)	EQUALIZER SW	OFF	AUX IN PAN	Center
AUX 2 Volume Control	MIN (MAX at measurement)	AUX 1 Volume Control	MIN (MAX at measurement)	MONITOR LEVEL TAPE RETURN	MAX
PAN	Center	AUX 2 Volume Control	MIN (MAX at measurement)	MONITOR SELECT SW	SOURCE
TAPE RETURN SW L	OFF	PAN	Center	MONITOR SOURCE SELECT SW	MASTER
TAPE RETURN SW R	OFF	TAPE RETURN SW L	OFF	MONITOR LEVEL SOURCE Control	MAX
PGM SW	ON	TAPE RETURN SW R	OFF	TALK BACK MASTER SW	OFF
PFL SW	OFF	PGM SW	ON	TALK BACK AUX 1 SW	OFF
INPUT FADER	MAX	PFL SW	OFF	TALK BACK AUX 2 SW	OFF
		STEREO FADER	MAX	TALK BACK LEVEL Control	MIN (MAX at measurement)
				HEADPHONE LEVEL Control	MIN (MAX at measurement)
				DIP SW (inside)	"1" side

2.4 ADJUSTING PROCEDURE

1. Checkup of power voltage

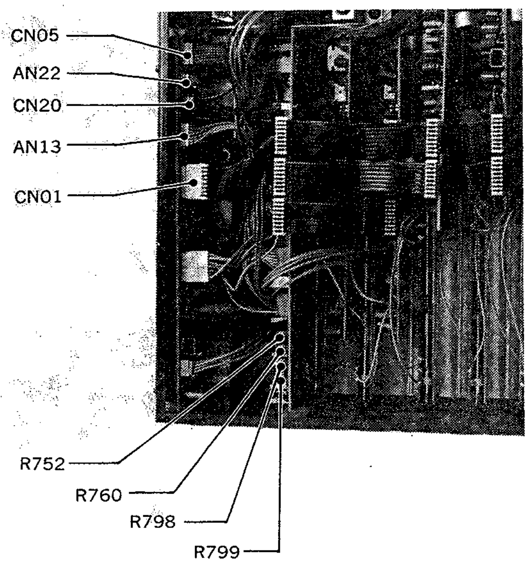
Check up voltage at the following points on the power supply board with a digital voltmeter.

Power source	Test points (connectors)	Rated voltage	Power source	Test points (connectors)	Rated voltage
Pre-amp power	CN01 Pin 2	+16 ± 1 V	VCA Through	AN13 Pin 1	4 V ± 1 V
	Pins 4, 5	0 V	LED] power VCA	Pin 2	0 V
	Pin 7	−16 ± 1 V		Pin 3	+12 ± 1 V
	CN20 Pins 2, 3	0 V	MUTING	Pin 7	−26 ± 2 V
LED power VCA power	AN22 Pins 2, 3 Pin 4	0 V +12 V ± 1 V	Phantom power	CN05 Pin 2	+48 ± 2 V

2. Adjustment of VU meters

1) Adjust VU meters by turning VRs on the monitor board (SSK0372-01).
2) Put the following output terminals to turn out +4 dBm and +4 dBs.
   - MONITOR L, R (unbalanced 10 kΩ load)
3) Adjust a VR corresponding to the below listed VU meter so that every VU meter reads 0 VU (all green LEDs light as a whole).

VU meters	Adjusting VRs
MASTER L (PGM. L)	R752
MASTER R (PGM. R)	R760
MONITOR L (MONI. L)	R798
MONITOR R (MONI. R)	R799



2.5 CHECKUP OF SPECIFICATIONS

1. Frequency characteristic

Input 20 Hz – 20 kHz sine wave to input terminals and confirm that output level at an output terminal corresponding to is in a range of +0 – –2 dB for 20 Hz – 20 kHz signal considering at 0 dBs for the standard.
(Exception: 50 Hz/–3 ± 2 dB and 20 kHz/$^{+0}_{-2}$ dB for TALK BACK input)

2. Distortion rate

Input 1 kHz and 20 kHz sine waves to input terminals and confirm that distortion rate at the following output terminal meets the specified value shown in the table below.

Output terminal	Output level	Distortion rate
MASTER L/R (balanced)	+20 dBm	1 kHz : 0.05% (30 kHz LPF ON, except hum) 20 kHz : 0.08% (except hum)
MASTER L/R (unbalanced) AUX 1, 2 MONITOR OUT	+20 dBs	

3. Crosstalk

Input 1 kHz sine wave to input terminals and confirm the folliwng output level at the output terminal corresponding to.

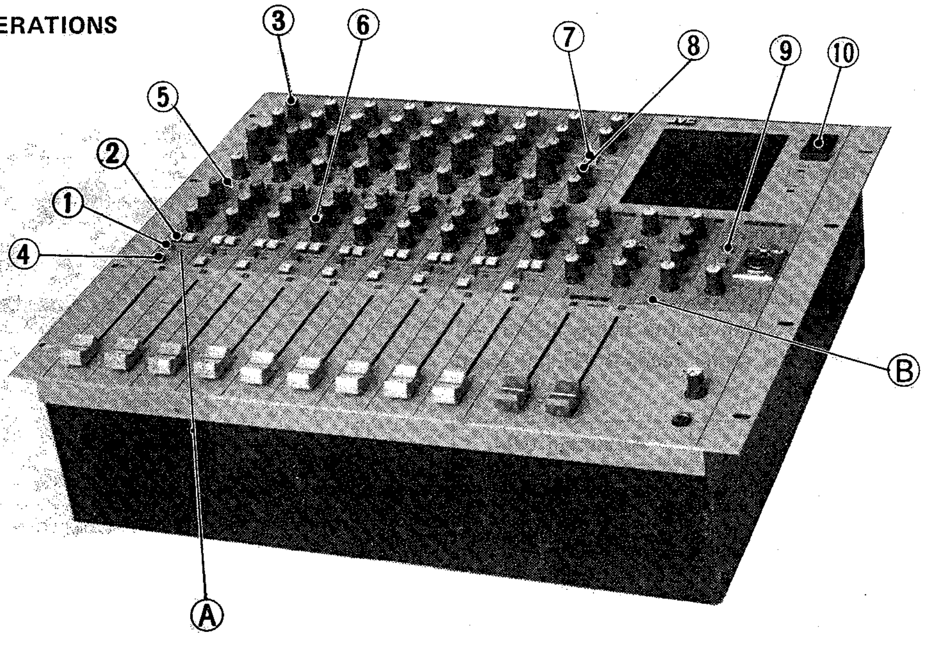
Balanced output : 600 Ω, +20 dBm
Unbalanced output : 10 kΩ, +20 dBs

Measuring point	Crosstalk (specified value)
Between MASTER L and R	Less than –70 dB
Between AUX 1/2 and MASTER L/R	
Between AUX 1 and AUX 2 (Level VR set to MIN)	

4. Residual noise (30 kHz LPF : ON) (balanced output)

	MASTER FADER	INPUT FADER	STEREO FADER	Noise Level	Conditions
1	MIN	MIN	MIN	Less than –83 dBm	
2	MAX	MIN	MIN	Less than –72 dBm	
3	MAX	MAX	MIN	Less than –54 dBm	SELECT –60 (1–8 CH): Input shortcircuited (Nos. 2 and 3)
4	MAX	MIN	MAX	Less than –63 dBm	SELECT –20 (1–4 CH): Input shortcircuited
5	MAX	MAX	MAX	Less than –48 dBm	SELECT PHONO (5–8 CH): Input short-circuited

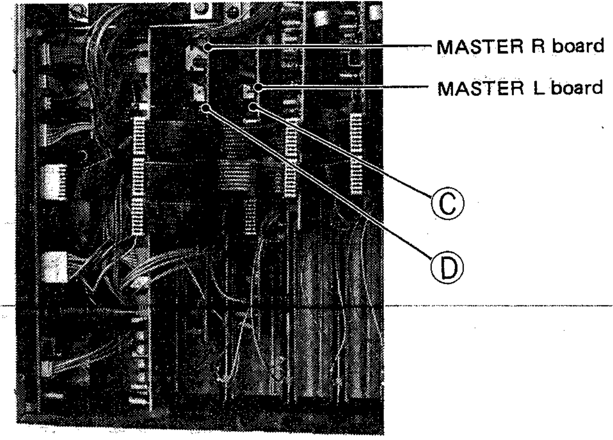
2.6 CHECKUP OF OPERATIONS



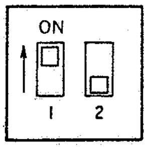
1. PGM (PROGRAM) SW ①
   ON : PGM LED Ⓐ (green) comes on.
   OFF : PGM LED Ⓐ goes out.
2. With the PGM switch set to ON, switching the TAPE RETURN SW L or R ② ON turns off the PGM LED Ⓐ.
3. When the INPUT SELECTOR ③ is set to –60 position and signal of –45 dBs or more is input to the balanced input terminal, the PGM LED Ⓐ of the input channel changes from green to red in the lighting.
4. By switching on the PFL (Pre-Fader Lessen) ④, the PFL LED Ⓑ (green) comes on.
5. LOW-CUT FILTER switch
   Turns on the LOW-CUT FILTER switch ⑤, and input 1 kHz and 75 Hz sine-wave signals to input terminals of the input module.
   At this time, confirm that output level of 75 Hz signal at the output terminal is –3 dB ± 1.5 dB against that of the 1 kHz signal.
6. PAN POT
   Input 1 kHz sine-wave signal to input terminals of the input module to output it from the MASTER OUT terminals.
   In this condition, when the PAN VOLUME ⑥ is turned counterclockwise, output develops only from the "L" side, while output from "R" only by turning the volume clockwise.
7. Supply input signal both to "R" and "L" channels of the stereo module.
   1) When the MODE switch ⑦ is set to "MONO", output signals of the same phase develop from both "R" and "L" output terminals of the master module.
   2) When the PHASE switch ⑧ is set to "ON" with the MODE switch ⑦ set to "MONO", neither "R" nor "L" output terminal of the master module outputs signal.
8. TALK BACK switch
   When the TALK BACK switch ⑨ (MASTER, AUX 1, AUX 2) is turned on, output level of the MONITOR OUT drops down by 20 dB ± 2 dB.
9. No output develops for 2–5 seconds after the POWER switch ⑩ is turned on.
10. Every volume control normally operates from "MIN" to "MAX" positions, and vice versa.
11. METER/OSCILLATOR output terminals
    Check up output levels at the following pins of CN29 so that they are as shown in the table below.

CN29	Output level	Output terminal	Conditions
Pin 1	+4 dBm	MASTER OUT L-ch (balanced)	at +4 dB output
Pin 2	+4 dBm	MATER OUT R-ch (balanced)	
Pin 3	+4 dBs	MONITOR OUT L-ch (unbalanced)	
Pin 4	+4 dBs	MONITOR OUT R-ch (unbalanced)	
Pin 6	400 Hz ± 10% 7 kHz ± 10%	OSC OUT	–
Pins 5,7	–	GROUND	–

12. Switchover of MASTER OUTPUT LEVEL
    When the dip switches Ⓒ and Ⓓ on the MASTER L/R boards are switched to "ON" side respectively, either of MASTER L/R output level increases by 4 dB ± 2 dB.



DIP switch

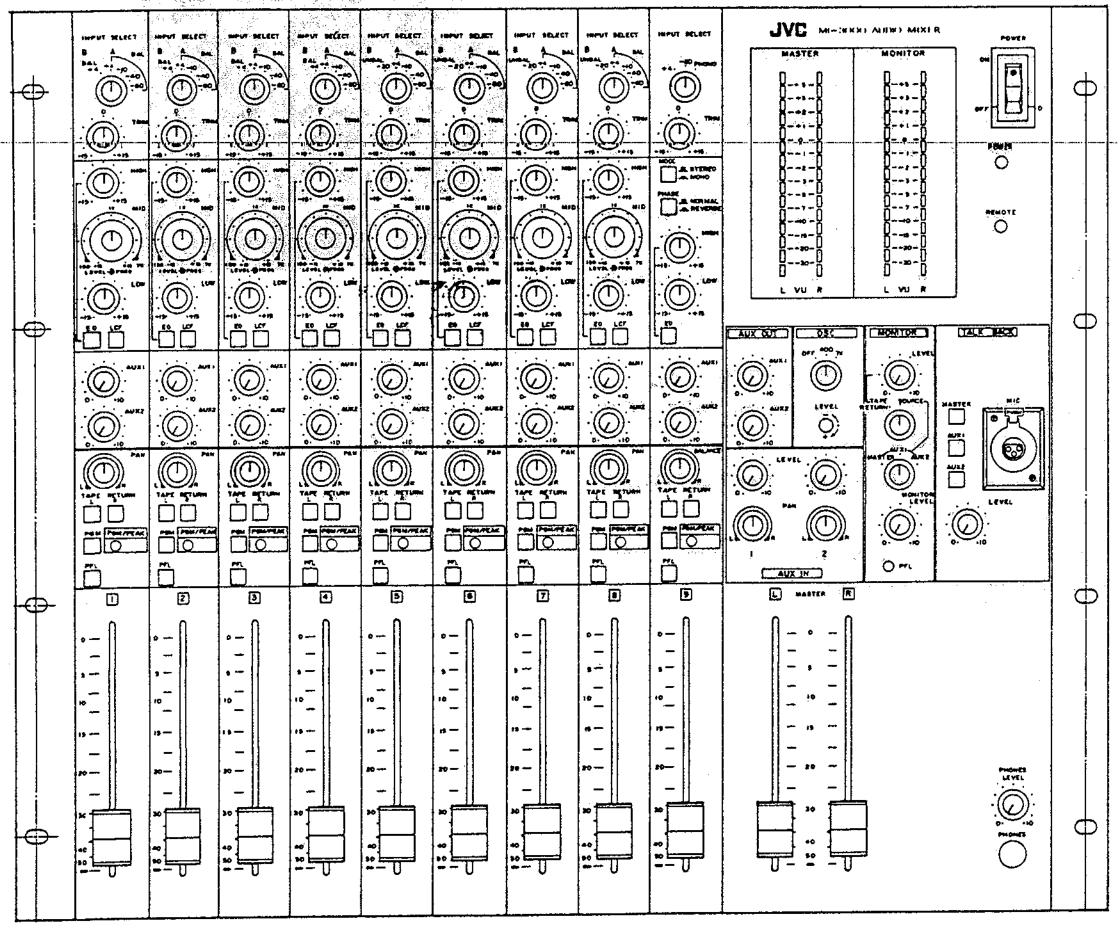


2.7 CHECKUP OF CONNECTION WITH MI-F30

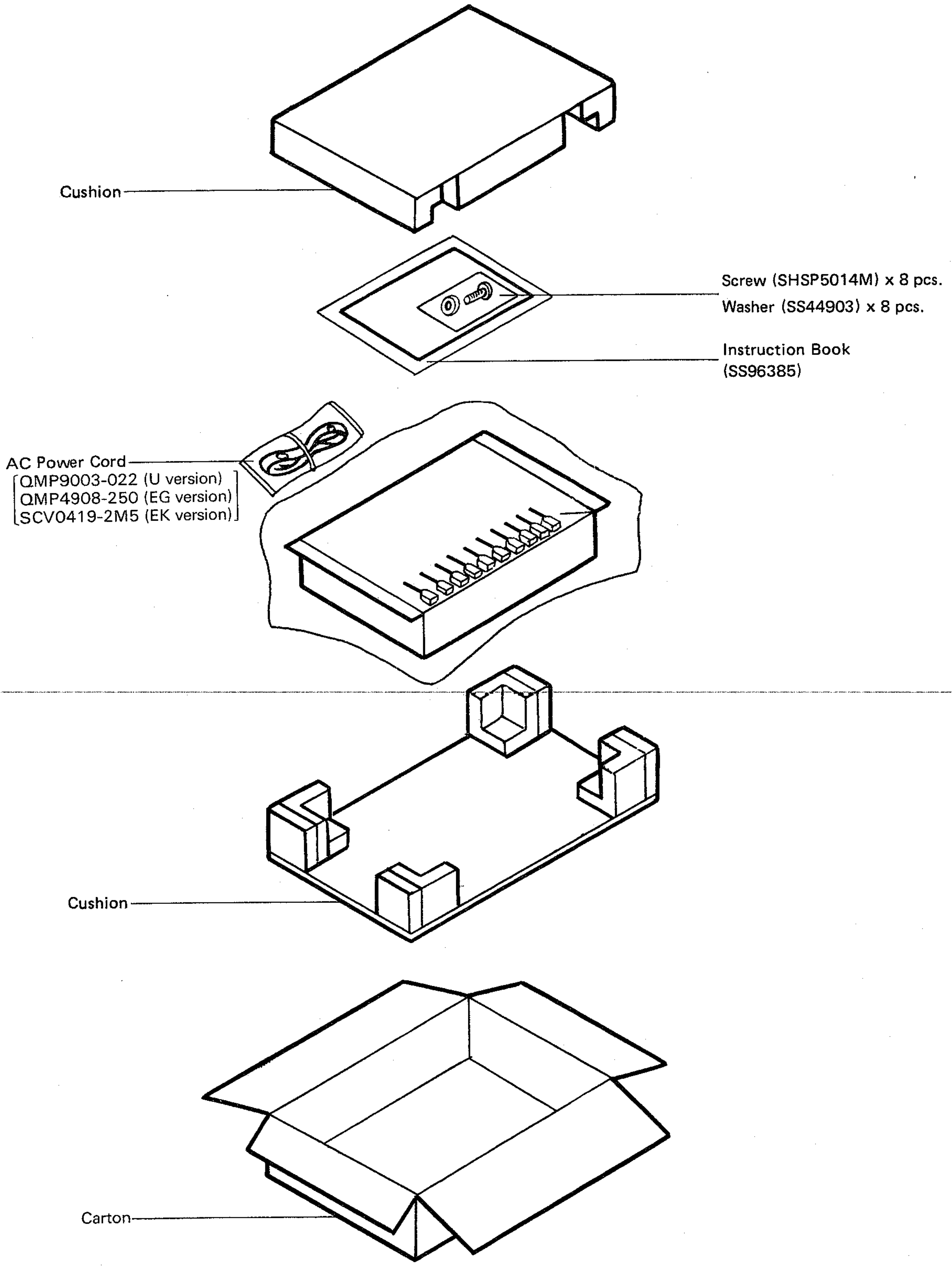
1. Remote control of POWER
   Power of the MI-F30 (Auto Fader) can be turned on/off by the mainframe (MI-3000) (in the case MI-F30's power switch is turned off).
2. REMOTE LAMP
   In the state that the MI-F30 and the MI-3000 are connected with the D SUB 25-P connector cable, the mainframe is set to the remote mode with the REMOTE lamp lighting.
3. CHANNEL SELECTION and VCA CONTROL
   1) A PGM LED of the mainframe's input module (including the stereo module) lights correspondingly to the selected channel (its indicator LED is lighting) of the MI-F30. (On MI-3000, PGM switch for every input channel should be turned off.)
   2) Sound volume varies in accordance with the MI-F30's operation.
4. Remote control of TAPE RETURN
   Set the mainframe's MONITOR SW to "SOURCE" and press the TAPE RET (Tape Return) of the PROGRAM SW on the MI-F30. This sets the unit to the TAPE RETURN mode.

2.8 SETTING OF CONTROLS AT SHIPMENT

1. All push knobs are at "OFF" positions while all slide volume controls are at "MIN" positions.
2. The POWER switch is set to "OFF", and all volume controls are at "MIN".
3. Other control knobs are set as shown in the figure.



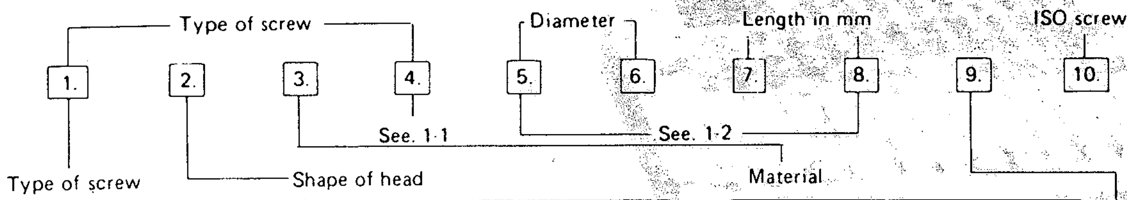
SECTION 3
REPACKING


Cushion
Screw (SHSP5014M) x 8 pcs.
Washer (SS44903) x 8 pcs.
Instruction Book
(SS96385)
AC Power Cord
QMP9003-022 (U version)
QMP4908-250 (EG version)
SCV0419-2M5 (EK version)
Cushion
Carton

SECTION 4
EXPLODED VIEWS AND PARTS LIST

4.1 SCREWS AND WASHER CODING

Note: In this exploded views the part number of the screws and washers designate the type and dimensions* of those items.
The following examples will help you to decipher them.



Type of screw
Diameter
Length in mm
ISO screw
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
See. 1-1
See. 1-2
Type of screw
Shape of head
Material
Surface treatment

Type of screw

S	Normal screw
N	Assembly screw
L	"
D	"
G	"
M	W. Wood screw
F	Feather screw
T	Setscrew
Y	"
B	Bolt
N	Nut
W	Washer
R	E-ring
E	–
P	Spring

Shape of head

P		Pan head
S		Flat countersunk head
H		Oval countersunk head
D		Binding head
R		Round head
B		Round head
T		Truss head

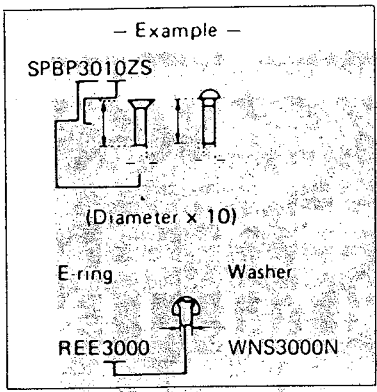
Material

Symbol letter	Material
S	Steel
E	Stainless steel
C	Cast iron
U	Bronze
B	Brass
P	Phosphor bronze
N	German silver
Y	Brass
A	Aluminum
Z	Zinc-alloy
K	Polycarbonate

1-1 Type of screw

P	Cross-Recessed head screw
A	Tapping screw
B	Tapping screw
T	Tapping screw
E	Tapping screw

1-2 Diameter and Length of screw



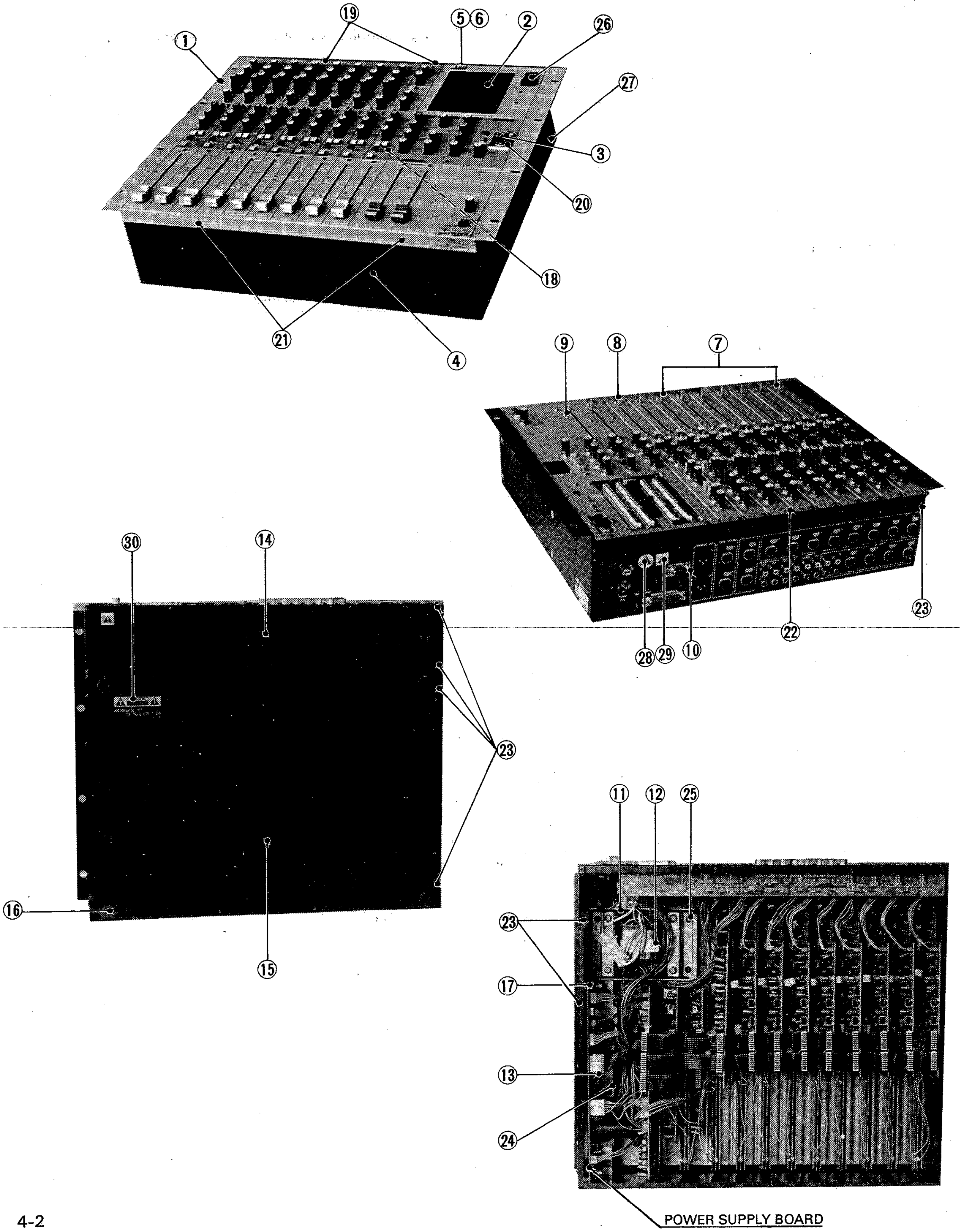
– Example –
SPBP3010ZS
(Diameter x 10)
E-ring
Washer
REE3000
WNS3000N

Surface treatment

Symbol letter	Surface treatment
Z	Galvanization, dichromic acid treatment (MFZn2-C)
N	Nickel plating (MFNi2, MFNi1)
R	Chrome plating (MBCr2, MBCr1)
G	Silver plating (SP4)
W	Nichrome platings
P	Phosphite treatment
B	Bronze plating
M	Black coloring after galvanization
A	Red coloring after galvanization
C	Blue coloring after galvanization
T	Green coloring after galvanization
V	Violet coloring after galvanization
F	Iron with black coloring

4.2 EXPLODED VIEWS AND PARTS LIST

4.2.1 MI-3000 assembly M1



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⑰
⑬
㉔
POWER SUPPLY BOARD

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

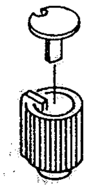
– MI-3000 assembly parts list –

M1MM☐☐☐☐

Symbol No.	Part No.	Part Name	Description	Q'ty
1	SS11120-001	Front Panel		1
2	SS33042	Escutcheon Panel		1
3	XLB-3-31	Connector	Cannon Type, 3-pin	1
4	SS11121	Chassis		1
5	Not Available	JVC Logo Mark		1
6	NSS2000	Push Nut		1
7	–	Input Module	See Page 4-4.	8
8	–	Stereo Input Module	See Page 4-5.	1
9	–	Master Monitor Module	See Page 4-6.	1
10	–	Connector Panel	See Page 4-7.	1
11	SS47198	Transformer Holder		1
⚠ 12	SSV0928	Power Transformer	U version 120 V	1
⚠	SSV0929	″	EG, EK version 220/240 V	1
13	SS33057	Heat Sink		1
14	SS33041	Blank Panel		1
15	SS33043	Bottom Cover		1
16	SS44228	Foot		4
17	SS46546	PCB Holder		4
18	SS45331	Foot		3
19	SDST3010N	Screw	M3 x 10	2
20	SSST3008N	″	M3 x 8	2
21	SSST3006M	″	M3 x 6	2
22	SDST3006M	″	M3 x 6	22
23	SBST3006M	″	M3 x 6	20
24	DPSP3010Z	″	M3 x 10	3
25	SBST4006Z	″	M4 x 6	4
26	SC42025-001	Switch Guide		1
27	Not Available	Serial Plate		1
⚠ 28	SC41957-001	Caution Label	U version	1
⚠ 29	SC42594-001	″		1
⚠ 30	SC41058-004	Warning Label		1
⚠	SC40341-001	Caution Label	EG, EK version	1
	SC40855-001	Earth Label		1

- **Composition of assembled knob**

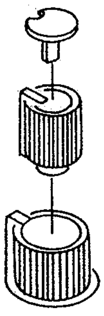
Single knob



Color	Part No.	Part Name
Yellow	SS32379-001	Cap
Green	″ -002	″
Blue	″ -003	″
White	″ -005	″
Light Blue	″ -006	″

	SS33079	Knob

Dual knob

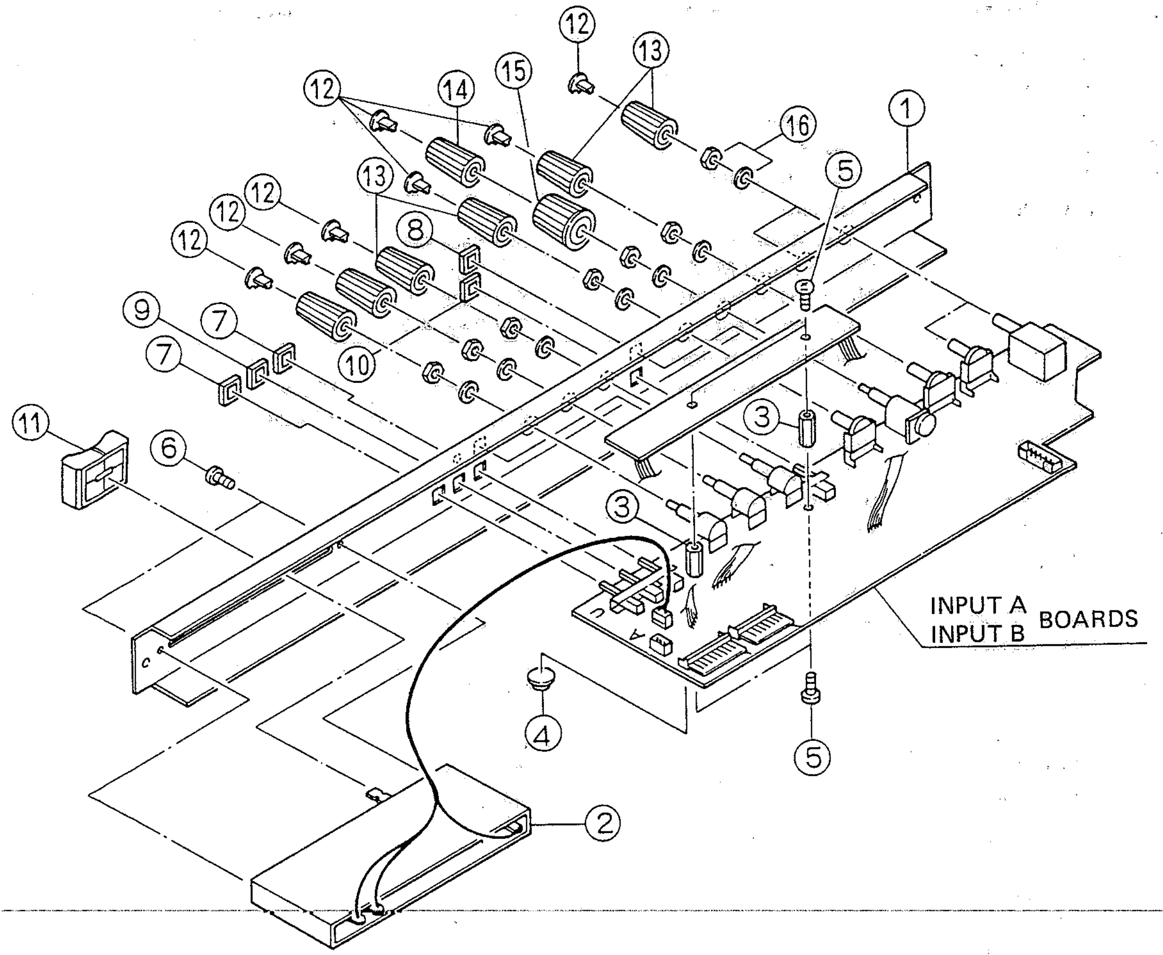


Color	Part No.	Part Name
Blue	SS32379-003	Cap

	SS32381-002	Dual Upper Knob

	SS32378-013	Dual Lower Knob

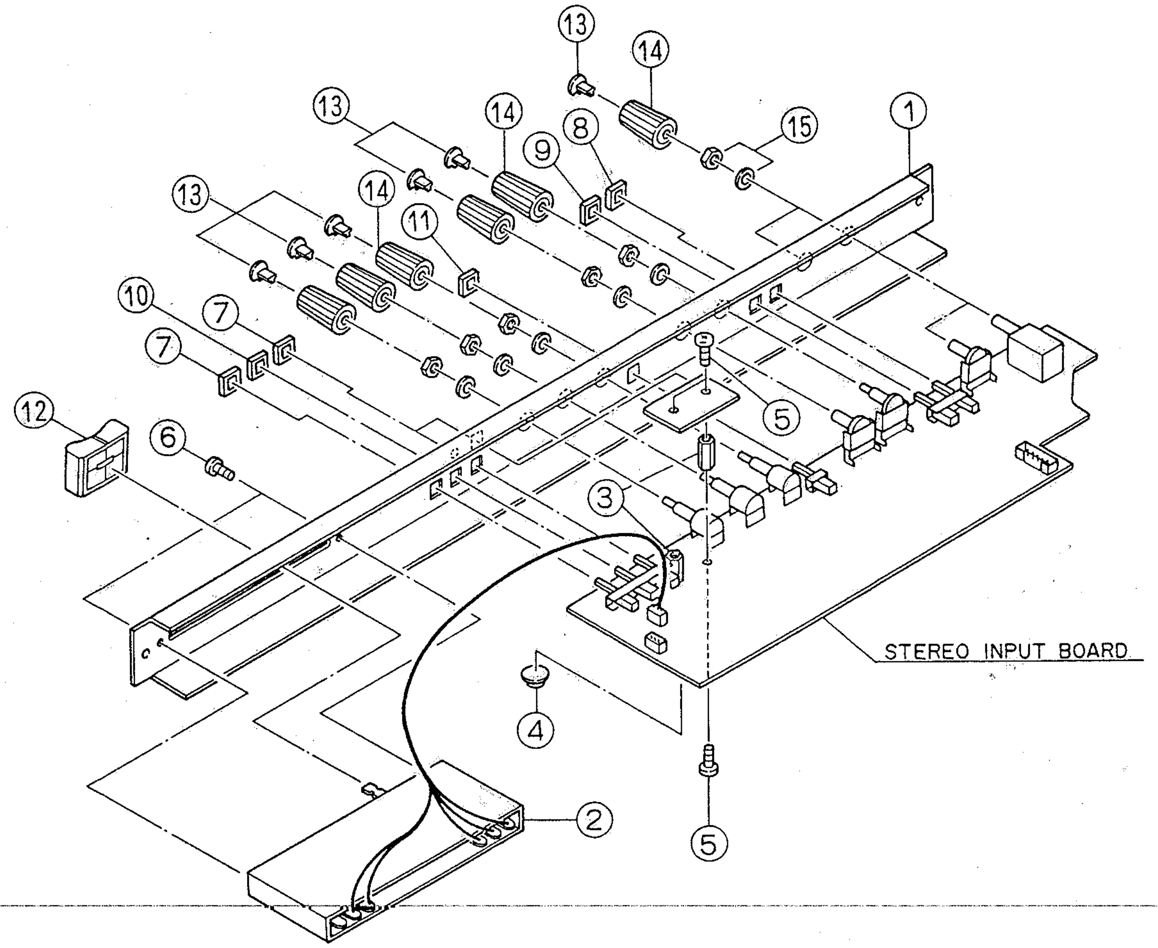
4.2.2 INPUT module assembly M2 (INPUT A/INPUT B)



– Input module assembly parts list – M2MM□□□□

Symbol No.	Part No.	Part Name	Description	Q'ty
1	SS21472-001	Inner Panel		1
2	QVZ5801-001	Slide VR	10 kΩ	1
3	SS47091-011	Spacer		2
4	SS45331	Foot		1
5	SDST3006M	Screw	M3 x 6	4
6	SBST3006Z	"	M3 x 6	2
7	SS44826-011	Knob	TAPE RETURN L/R, PFL (White)	3
8	" -014	"	LCF (Blue)	1
9	" -016	"	PGM (Red)	1
10	" -018	"	EQ (Light Blue)	1
11	SS32375-001	"	For Fader Lever (White)	1
12	SS32379	Cap	For Knobs 14 & 13 — These knobs are composed of 2 or 3 parts. For details, see the table of assembled knob composition.(page 4-3)	8
13	SS33079	Knob		7
14	SS32381-002	Dual Upper Knob		1
15	SS32378	Dual Lower Knob		1
16	–	–	VR Accessory (on INPUT A/INPUT B boards)	

4.2.3 STEREO INPUT module assembly M3

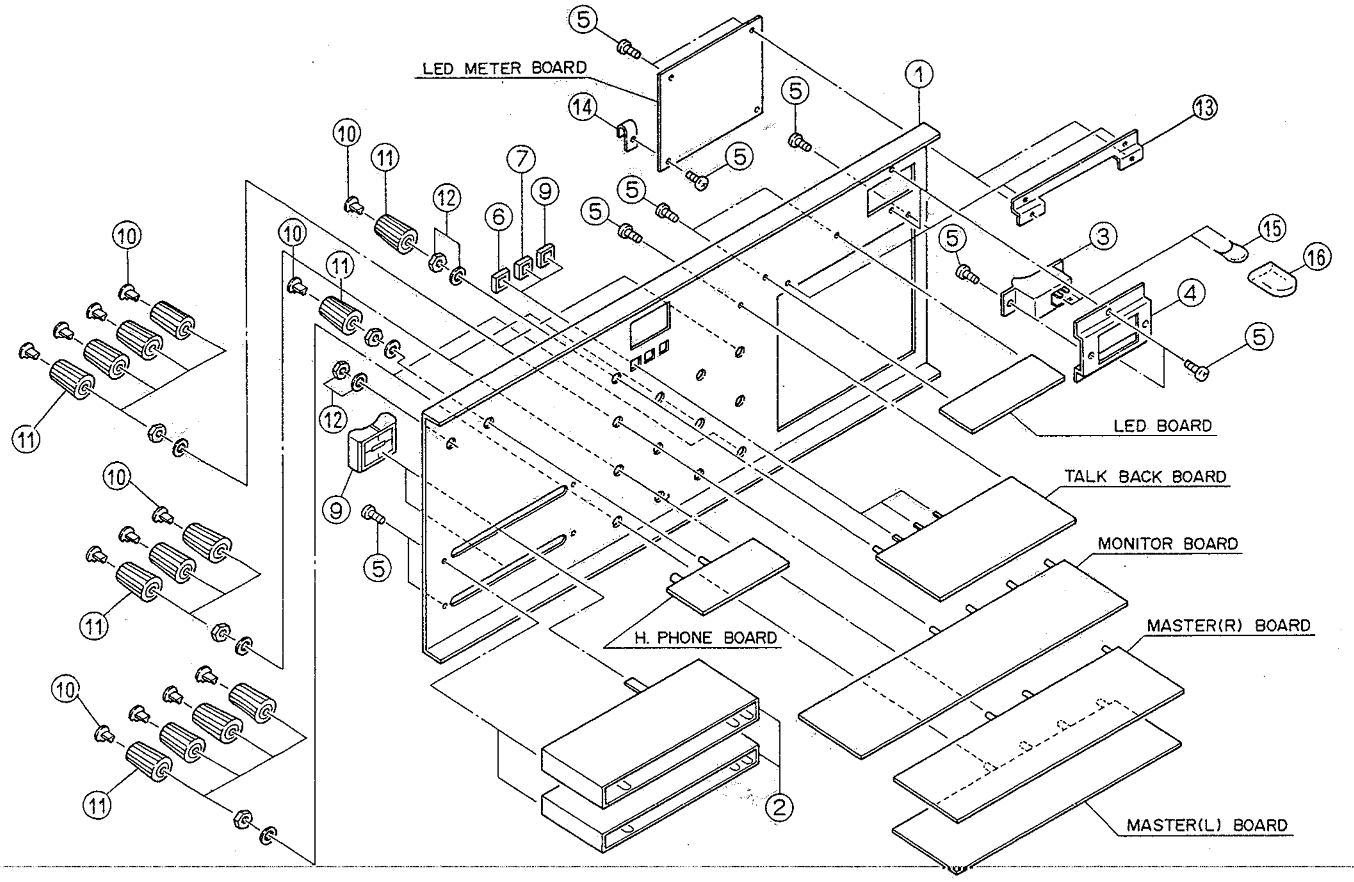


– Stereo input module assembly parts list –

M3 MM □□□□

Symbol No.	Part No.	Part Name	Description	Q'ty
1	SS21472-002	Inner Panel		1
2	SSV0901-001	Slide VR	10 kΩ	1
3	SS47091-011	Spacer		2
4	SS45331	Rubber		1
5	SDST3006M	Screw	M3 x 6	4
6	SBST3006Z	"	M3 x 6	2
7	SS44826-011	Knob	TAPE RETURN L/R, PFL (White)	3
8	" -012	"	MODE (Yellow)	1
9	" -014	"	PHASE (Blue)	1
10	" -016	"	PGM (Red)	1
11	" -018	"	EQ (Light Blue)	1
12	SS32375-001	"		1
13	SS32379	Cap	For detail, see the table of assembled knob composition (page 4-3).	6
⚠ 14	SS33079	Knob		6
15	–	–	VR Accessory (on the STEREO INPUT board)	

4.2.4 MASTER-MONITOR module assembly M4



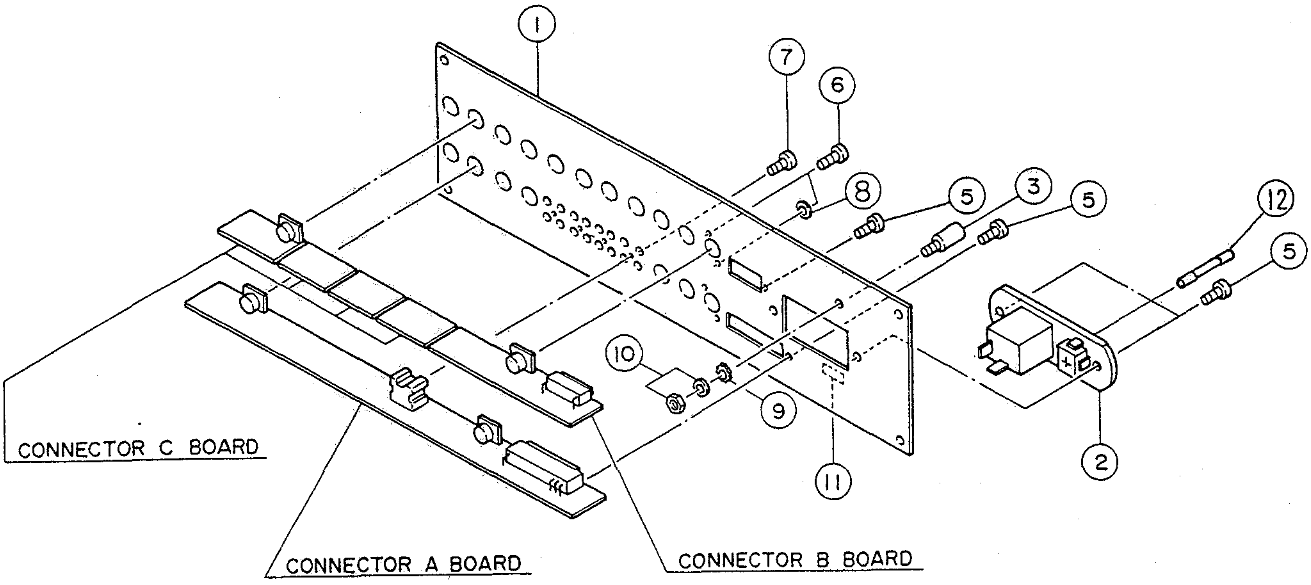
⑤
LED METER BOARD
①
⑭
⑤
⑬
⑩
⑪
⑤
⑦
⑫
⑨
⑥
⑤
⑤
⑩
⑩
⑪
⑮
⑤
③
⑯
④
⑤
⑪
⑫
LED BOARD
⑩
TALK BACK BOARD
⑨
⑤
MONITOR BOARD
⑪
MASTER(R) BOARD
H. PHONE BOARD
⑩
②
⑪
MASTER(L) BOARD

– Master monitor module assembly parts list –

M4MM☐☐☐☐

Symbol No.	Part No.	Part Name	Description	Q'ty
1	SS21471	Inner Panel		1
2	QVZ5801-001	Slide VR	10 kΩ	2
3	QSE2A21-S04	Power Switch		1
4	SS47063	Bracket		1
5	SBST3006Z	Screw	M3 x 6	20
6	SS44826-012	Knob	AUX 2 (Yellow)	1
7	〃 -013	〃	AUX 1 (Green)	1
8	〃 -016	〃	MASTER (Red)	1
9	SS32375-003	〃	FADER (Red)	2
10	SS32379	Cap	For detail, see the table of assembled knob composition (page 4-3).	12
11	SS33079	Knob		12
12	–	–	VR Accessory (on the circuit boards)	
13	SS47066	Stopper		1
14	SS47067	Bracket		2
⚠ 15	QCZ9016-103	Capacitor	0.01 μF/AC 400 V	1
16	SS30767-005	Cover		1

4.2.5 Connector panel assembly M5


1
7
6
8
5
3
5
12
5
10
9
11
2
CONNECTOR C BOARD
CONNECTOR A BOARD
CONNECTOR B BOARD

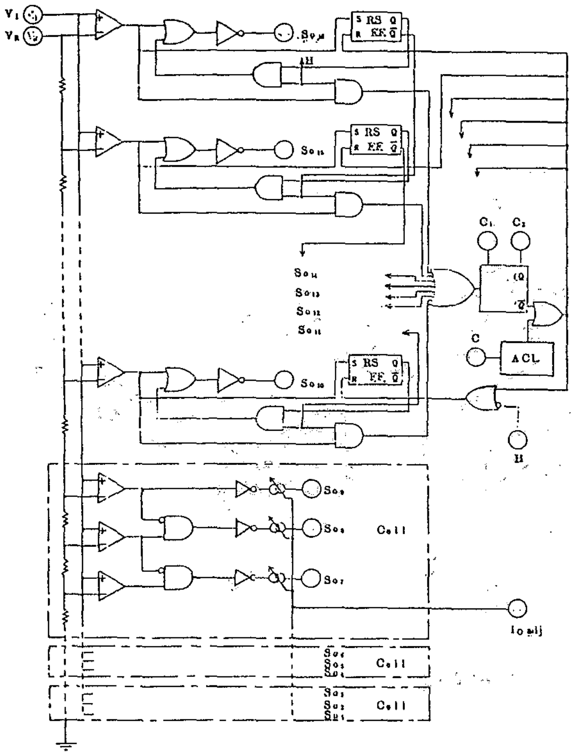
– Connector panel assembly parts list – M5MM☐☐☐☐

Symbol No.	Part No.	Part Name	Description	Q'ty
1	SS21470	Connector Panel		1
⚠ 2	SSV0961	AC Inlet		1
3	E03619-001	Ground Terminal		1
4	—	—		—
5	SBST3006M	Screw	M3 x 6	3
6	SDST3010M	"	M3 x 10	36
7	SBSF3008M	"	M3 x 8	4
8	WAS3000M	Washer	M3	18
9	WBS6000	"	M6	1
10	—	—	VR Accessory	
11	SS33100	Fuse Label		1
⚠ 12	QMF51U2-R80	Fuse	800 mA/250 V U version	1
⚠	QMF51A2-R315	"	T315 mA/250 V EG, EK version	1

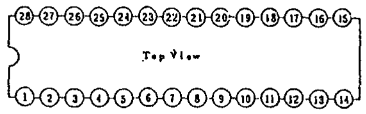
SECTION 5
CHARTS AND DIAGRAMS

5.1 IC BLOCK DIAGRAMS

IR2E04



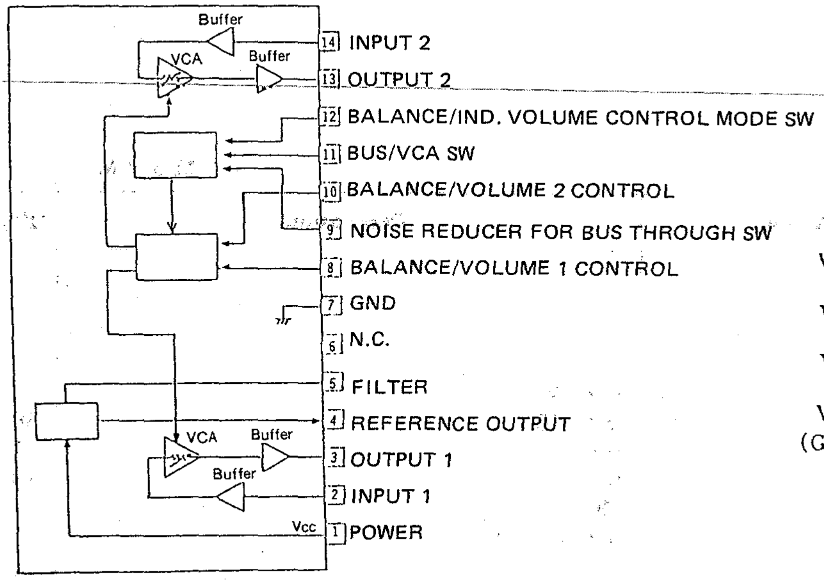
V₁
V_R
RS FF
Q
H
So₁₆
So₁₅
So₁₄
So₁₃
So₁₂
So₁₁
So₁₀
C₁
C₂
C
ACL
So₉
So₈
So₇
Cell
Io adj
So₆
So₅
So₄
So₃
So₂
So₁



28 27 26 25 24 23 22 21 20 19 18 17 16 15
Top View
1 2 3 4 5 6 7 8 9 10 11 12 13 14

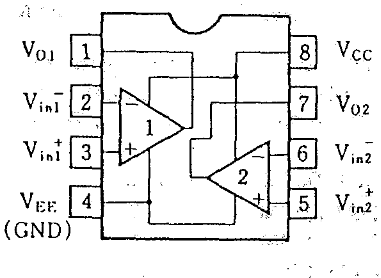
Pin No.	Symbol	Function
1	C_2	Switching of Auto Hold (Time setting)/Manual Hold/Non Hold
2	C_1	Determines minum pulse width capable for peak hold
3	NC	NC
4	So_{16}	10 dB LED output
5	So_{15}	7 dB LED output
6	So_{14}	5 dB LED output
7	So_{13}	3 dB LED output
8	So_{12}	2 dB LED output
9	So_{11}	1 dB LED output
10	So_{10}	0 dB LED output
11	H	Switching terminal for Peak Hold/Non Peak Hold of 0 dB level
12	NC	NC
13	NC	NC
14	GND	GND
15	Io adj.	−30 dB to −1 dB output current setting terminal
16	So_9	−1 dB LED output
17	So_8	−2 dB LED output
18	So_7	−3 dB LED output
19	So_6	−5 dB LED output
20	So_5	−7 dB LED output
21	So_4	−10 dB LED output
22	So_3	−15 dB LED output
23	So_2	−20 dB LED output
24	So_1	−30 dB LED output
25	V_1	Signal input
26	V_R	Upper acceptable input of lighting level comparison voltage
27	+Vcc	+Vcc
28	C	Capacitor connection terminal for ACL

M51131L (2-channel electronic volume balance)



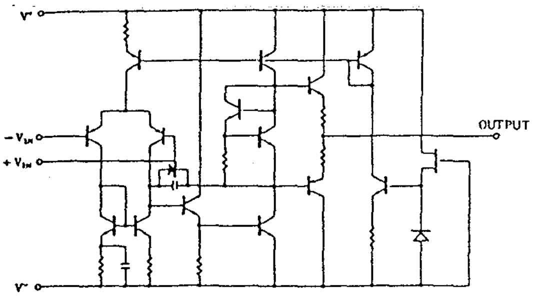
Buffer
VCA
Buffer
14 INPUT 2
13 OUTPUT 2
12 BALANCE/IND. VOLUME CONTROL MODE SW
11 BUS/VCA SW
10 BALANCE/VOLUME 2 CONTROL
9 NOISE REDUCER FOR BUS THROUGH SW
8 BALANCE/VOLUME 1 CONTROL
7 GND
6 N.C.
5 FILTER
4 REFERENCE OUTPUT
VCA
Buffer
3 OUTPUT 1
Buffer
2 INPUT 1
Vcc
1 POWER

AN6558



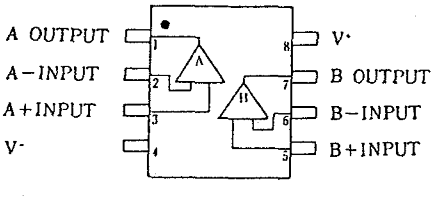
V_{O1} 1
V_{in1}^- 2
V_{in1}^+ 3
V_{EE} (GND) 4
8 V_{CC}
7 V_{O2}
6 V_{in2}^-
5 V_{in2}^+
1
2

NJM4560DD



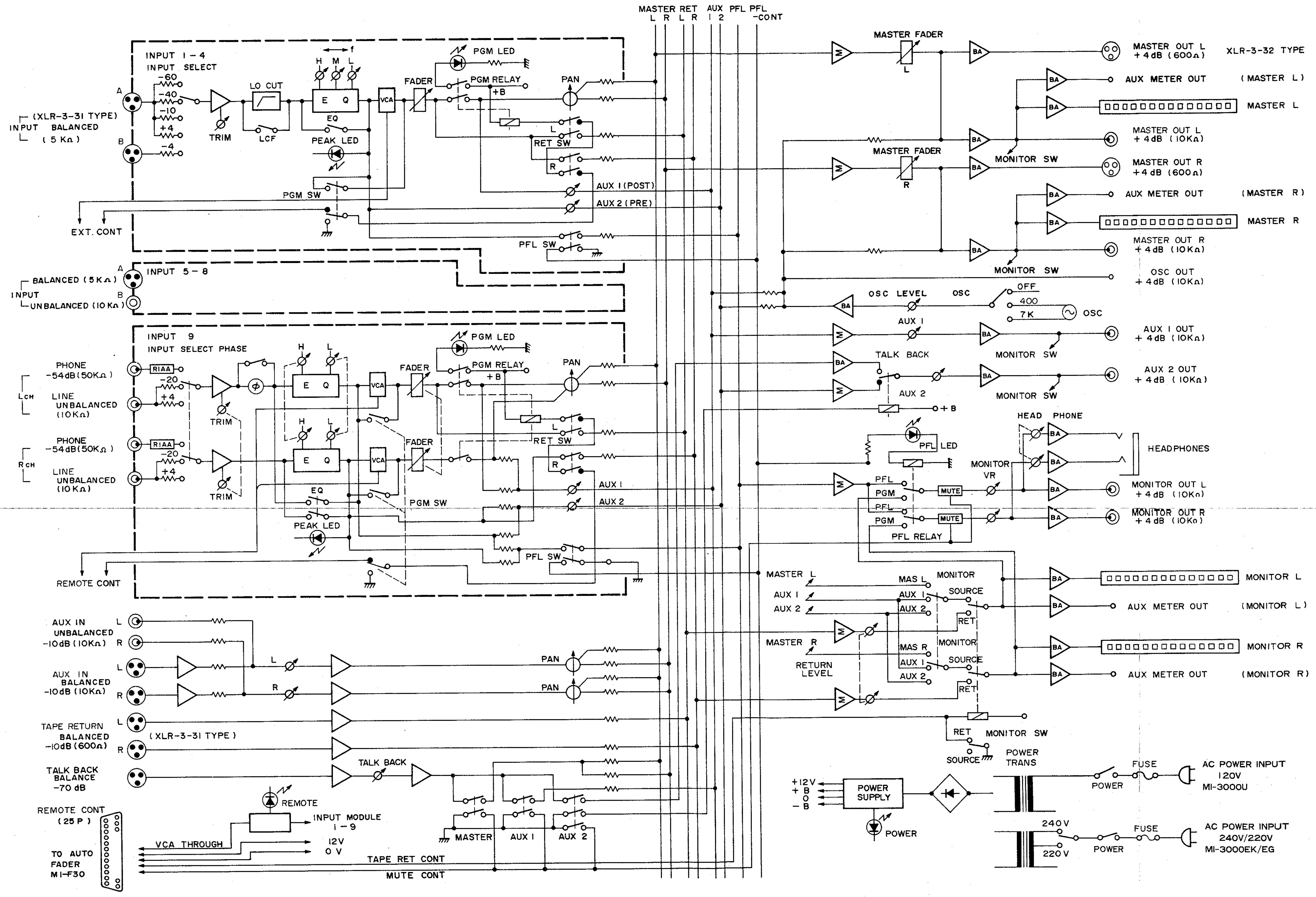
V⁺
−V_IN
+V_IN
OUTPUT
V⁻

Top View

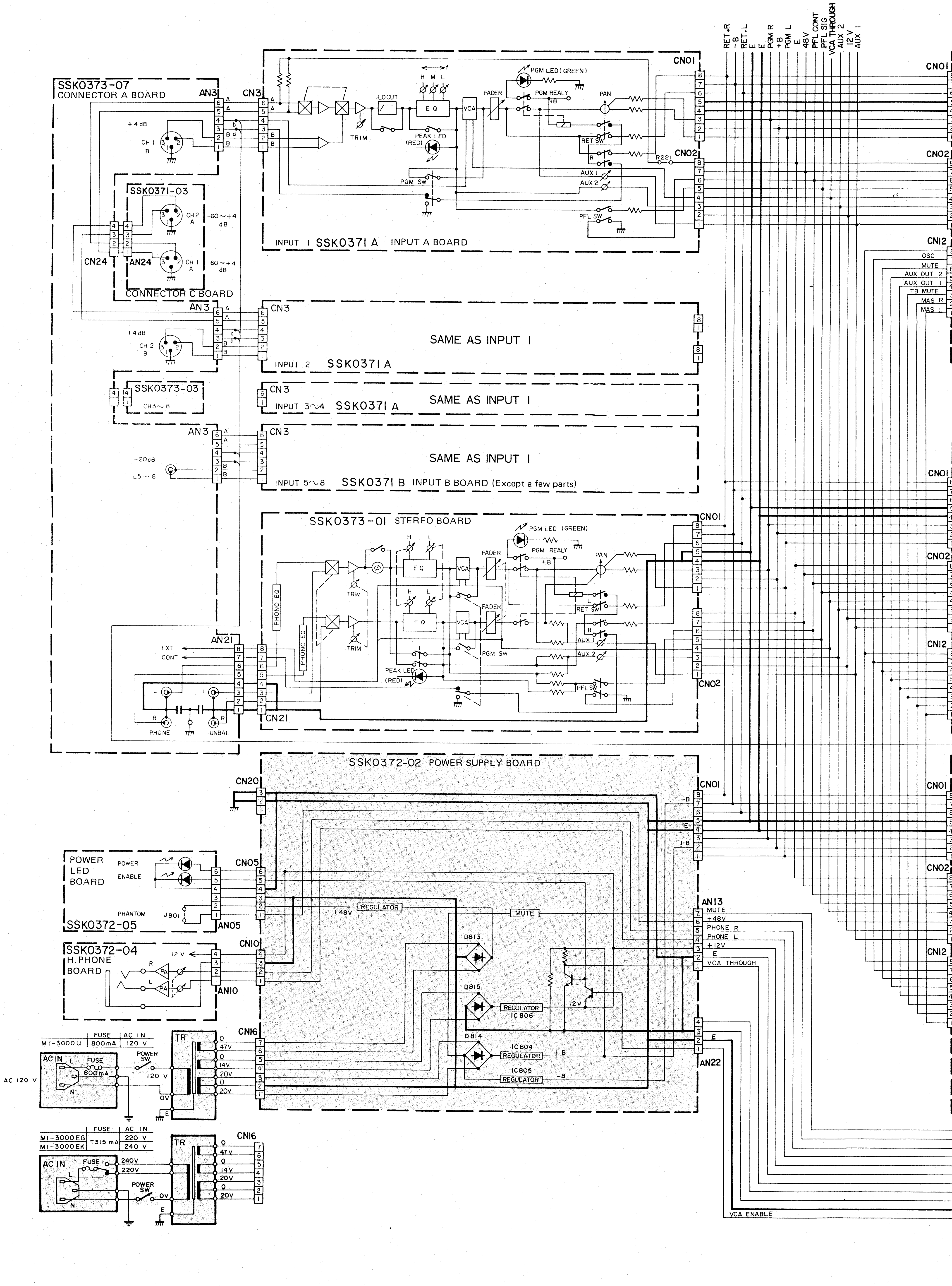


A OUTPUT
A−INPUT
A+INPUT
V⁻
1
2
3
4
A
B
8
7
6
5
V⁺
B OUTPUT
B−INPUT
B+INPUT

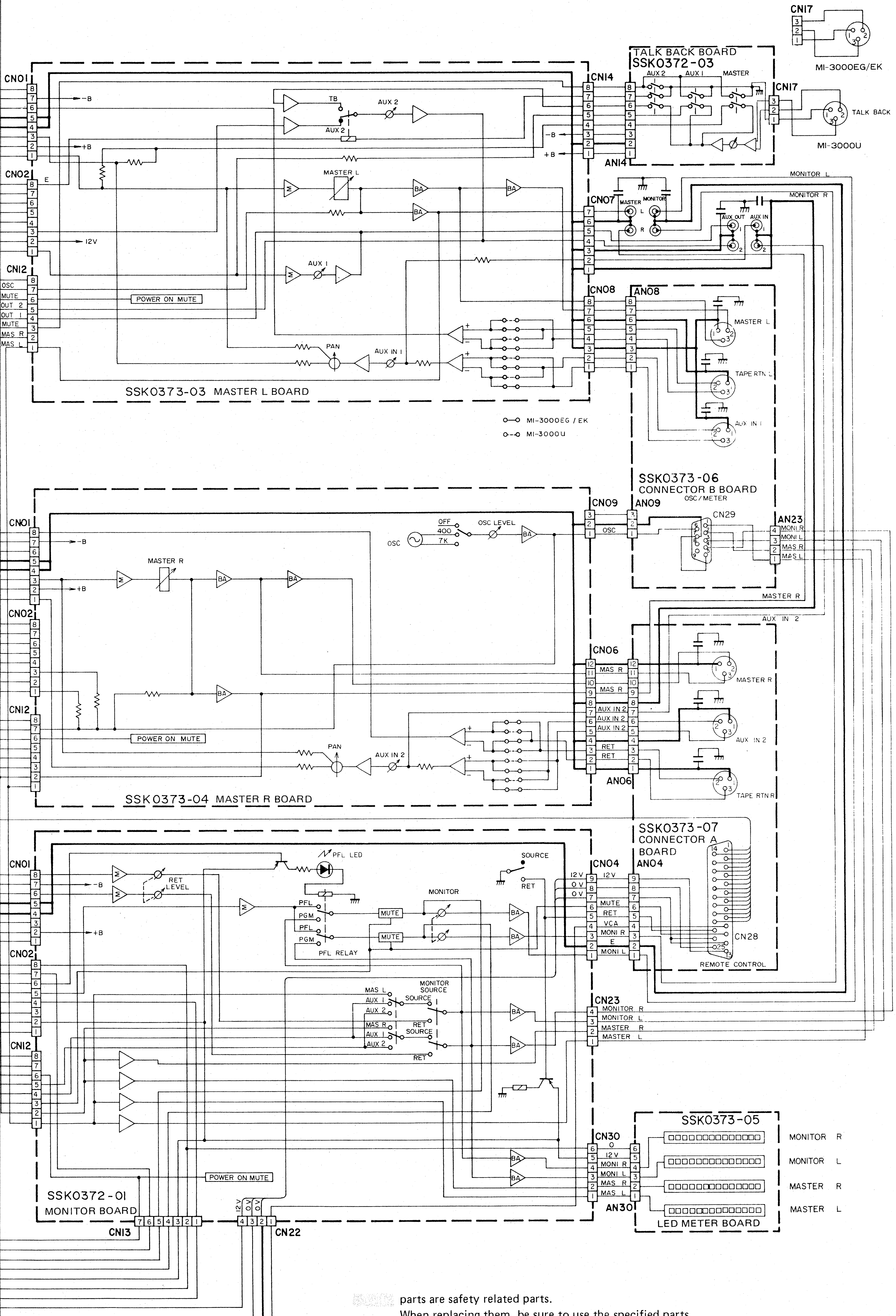
5.2 MI-3000 BLOCK DIAGRAM


MASTER L R
RET L R
AUX 1 2
PFL
PFL -CONT
INPUT 1 – 4
INPUT SELECT
-60
-40
-10
+4
-4
(XLR-3-31 TYPE)
INPUT BALANCED
(5 KΩ)
A
B
TRIM
LO CUT
LCF
H M L
f
E Q
EQ
PEAK LED
VCA
FADER
PGM LED
PGM RELAY
+B
PAN
RET SW
L
R
AUX 1 (POST)
AUX 2 (PRE)
PGM SW
EXT. CONT
PFL SW
INPUT 5 – 8
BALANCED (5 KΩ)
INPUT
UNBALANCED (10 KΩ)
INPUT 9
INPUT SELECT PHASE
PHONE
-54dB (50KΩ)
LCH
LINE
UNBALANCED
(10KΩ)
RCH
RIAA
-20
+4
AUX 1
AUX 2
REMOTE CONT
AUX IN
UNBALANCED
-10dB (10KΩ)
AUX IN
BALANCED
-10dB (10KΩ)
TAPE RETURN
BALANCED
-10dB (600Ω)
(XLR-3-31 TYPE)
TALK BACK
BALANCE
-70 dB
TALK BACK
REMOTE
INPUT MODULE
1 – 9
REMOTE CONT
(25 P)
TO AUTO
FADER
MI-F30
VCA THROUGH
12V
0 V
TAPE RET CONT
MUTE CONT
MASTER
AUX 1
AUX 2
MASTER FADER
M
BA
MASTER OUT L
+4 dB (600Ω)
XLR-3-32 TYPE
AUX METER OUT
(MASTER L)
MASTER L
MASTER OUT L
+4 dB (10KΩ)
MONITOR SW
MASTER OUT R
+4 dB (600Ω)
(MASTER R)
MASTER R
MASTER OUT R
+4 dB (10KΩ)
OSC OUT
+4 dB (10KΩ)
OSC LEVEL
OSC
OFF
400
7K
AUX 1 OUT
+4 dB (10KΩ)
AUX 2 OUT
+4 dB (10KΩ)
HEAD PHONE
HEADPHONES
PFL LED
MONITOR VR
PFL
PGM
MUTE
PFL RELAY
MONITOR OUT L
+4 dB (10KΩ)
MONITOR OUT R
+4 dB (10KΩ)
MASTER L
MASTER R
MAS L
MAS R
MONITOR
SOURCE
RET
RETURN LEVEL
MONITOR L
(MONITOR L)
MONITOR R
(MONITOR R)
RET MONITOR SW
SOURCE
POWER TRANS
+12V
+B
0
-B
POWER SUPPLY
POWER
FUSE
AC POWER INPUT
120V
MI-3000U
240V
220V
AC POWER INPUT
240V/220V
MI-3000EK/EG

5.3 OVERALL WIRINGS



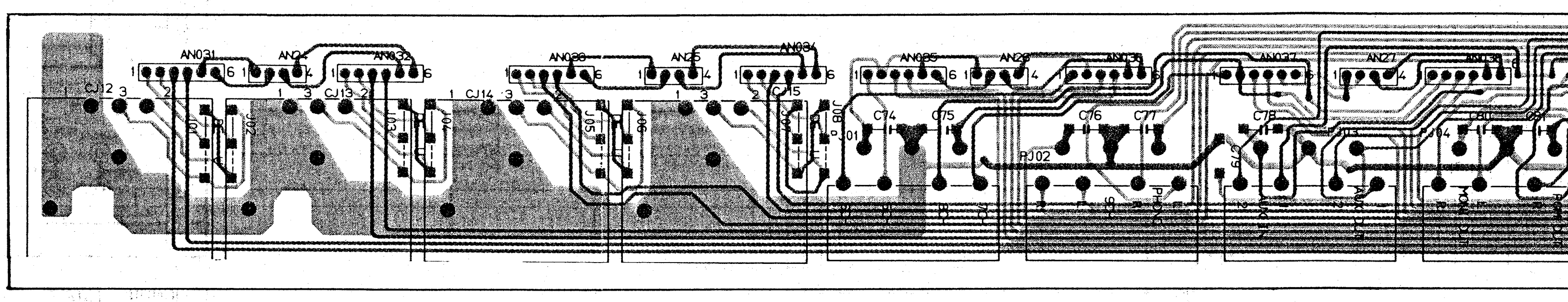
SSK0373-07 CONNECTOR A BOARD
AN3
CN3
+4dB
CH 1 B
SSK0371-03
CH 2 A
-60～+4 dB
CH 1 A
CN24
AN24
CONNECTOR C BOARD
CH 2 B
SSK0373-03
CH3～8
-20dB
L5～8
EXT CONT
AN21
CN21
PHONE
UNBAL
INPUT 1 SSK0371 A INPUT A BOARD
LOCUT
EQ
H M L
TRIM
PEAK LED (RED)
VCA
FADER
PGM LED (GREEN)
PGM REALY
+B
PAN
RET SW
R221
AUX 1
AUX 2
PGM SW
PFL SW
CN01
CN02
INPUT 2 SSK0371 A
SAME AS INPUT 1
INPUT 3～4 SSK0371 A
INPUT 5～8 SSK0371 B INPUT B BOARD (Except a few parts)
SSK0373-01 STEREO BOARD
PHONO EQ
SSK0372-02 POWER SUPPLY BOARD
CN20
CN05
CN10
CN16
AN05
AN10
AN13
AN22
POWER LED BOARD
POWER
ENABLE
PHANTOM
J801
SSK0372-05
SSK0372-04 H. PHONE BOARD
12 V
PA
+48V
REGULATOR
MUTE
D813
D815
D814
REGULATOR IC806
IC804 REGULATOR
IC805 REGULATOR
+B
-B
E
MUTE
+48V
PHONE R
PHONE L
+12V
VCA THROUGH
VCA ENABLE
M1-3000U
FUSE 800mA
AC IN 120 V
AC 120 V
AC IN
POWER SW
TR
0V
47V
14V
20V
M1-3000EG
M1-3000EK
T315 mA
220 V
240 V
240V
220V
RET.R
-B
RET.L
E
PGM R
PGM L
48V
PFL CONT
PFL SIG
AUX 2
12 V
AUX 1
CN12
OSC
MUTE
AUX OUT 2
AUX OUT 1
TB MUTE
MAS R
MAS L


CN17
MI-3000EG/EK
TALK BACK BOARD
SSK0372-03
AUX 2
AUX 1
MASTER
CN17
TALK BACK
MI-3000U
CN01
CN02
CN12
-B
+B
12V
E
TB
AUX 2
MASTER L
AUX 1
PAN
AUX IN 1
POWER ON MUTE
OSC
MUTE
OUT 2
OUT 1
MUTE
MAS R
MAS L
CN14
AN14
CN07
MASTER
MONITOR
L
R
AUX OUT
AUX IN
MONITOR L
MONITOR R
CN08
AN08
MASTER L
TAPE RTN L
AUX IN 1
SSK0373-03 MASTER L BOARD
MI-3000EG / EK
MI-3000U
SSK0373-06
CONNECTOR B BOARD
OSC/METER
CN09
AN09
CN29
AN23
MONI R
MONI L
MAS R
MAS L
MASTER R
AUX IN 2
OSC
OFF
400
7K
OSC LEVEL
MASTER R
POWER ON MUTE
PAN
AUX IN 2
SSK0373-04 MASTER R BOARD
CN06
AN06
MAS R
MAS R
AUX IN 2
AUX IN 2
AUX IN 2
RET
RET
MASTER R
AUX IN 2
TAPE RTN R
SSK0373-07
CONNECTOR A
BOARD
AN04
CN04
12V
0V
0V
12V
MUTE
RET
VCA
MONI R
E
MONI L
CN28
REMOTE CONTROL
PFL LED
RET
LEVEL
SOURCE
RET
MONITOR
PFL
PGM
PFL
PGM
MUTE
MUTE
PFL RELAY
MAS L
AUX 1
AUX 2
MAS R
AUX 1
AUX 2
MONITOR
SOURCE
SOURCE
RET
SOURCE
RET
CN23
MONITOR R
MONITOR L
MASTER R
MASTER L
BA
M
POWER ON MUTE
SSK0372-01
MONITOR BOARD
CN13
CN22
12V
0V
0V
CN30
0
12V
MONI R
MONI L
MAS R
MAS L
AN30
SSK0373-05
MONITOR R
MONITOR L
MASTER R
MASTER L
LED METER BOARD

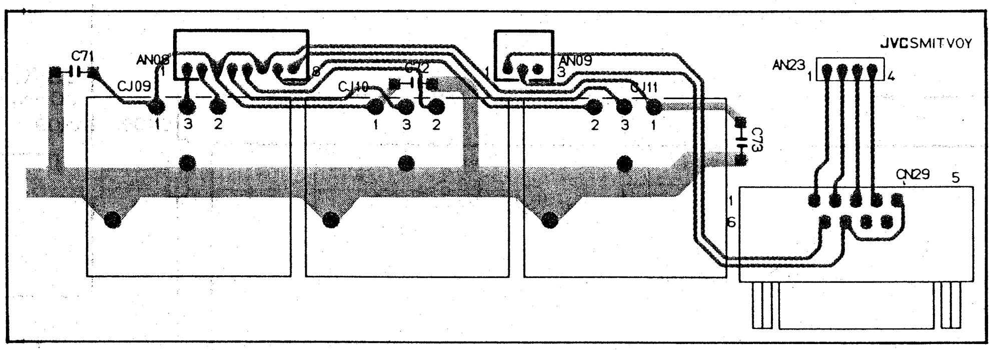
▨ parts are safety related parts.
When replacing them, be sure to use the specified parts.

5.4 CONNECTOR CIRCUIT BOARD

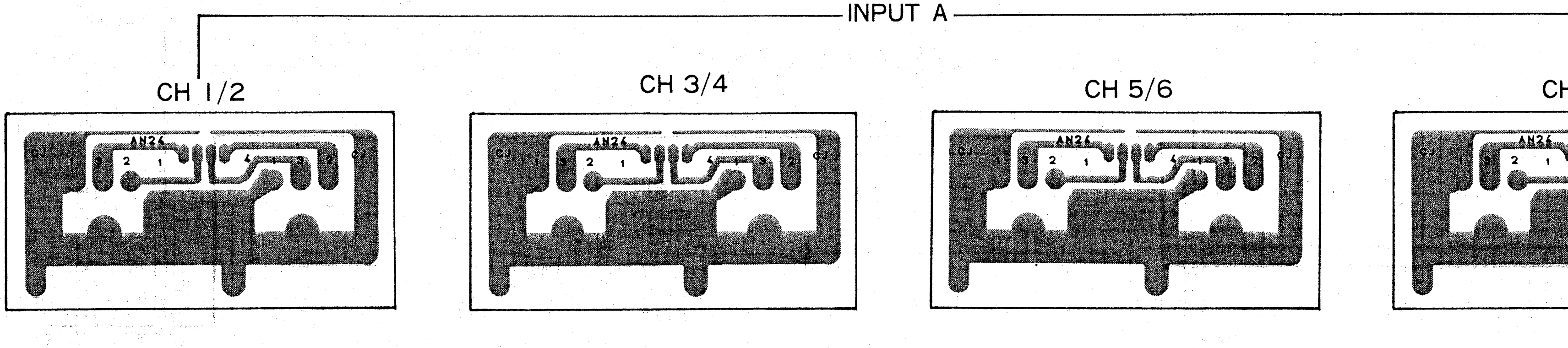
5.4.1 Connector A circuit board

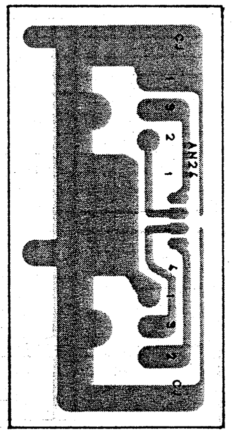

AN031
AN24
AN032
CJ12
CJ13
CJ14
CJ15
AN033
AN25
AN034
AN035
AN26
AN036
AN037
AN27
C74
C75
C76
C77
C78
C79
RJ02

5.4.2 Connector B circuit board

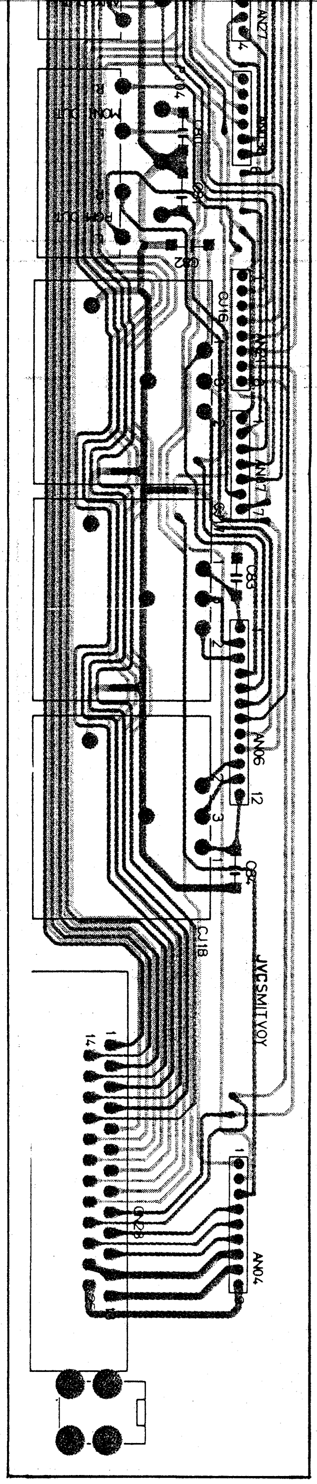

C71
AN08
CJ09
CJ10
C72
AN09
CJ11
C73
AN23
JVCSMITVOY
CN29

5.4.3 Connector C circuit board

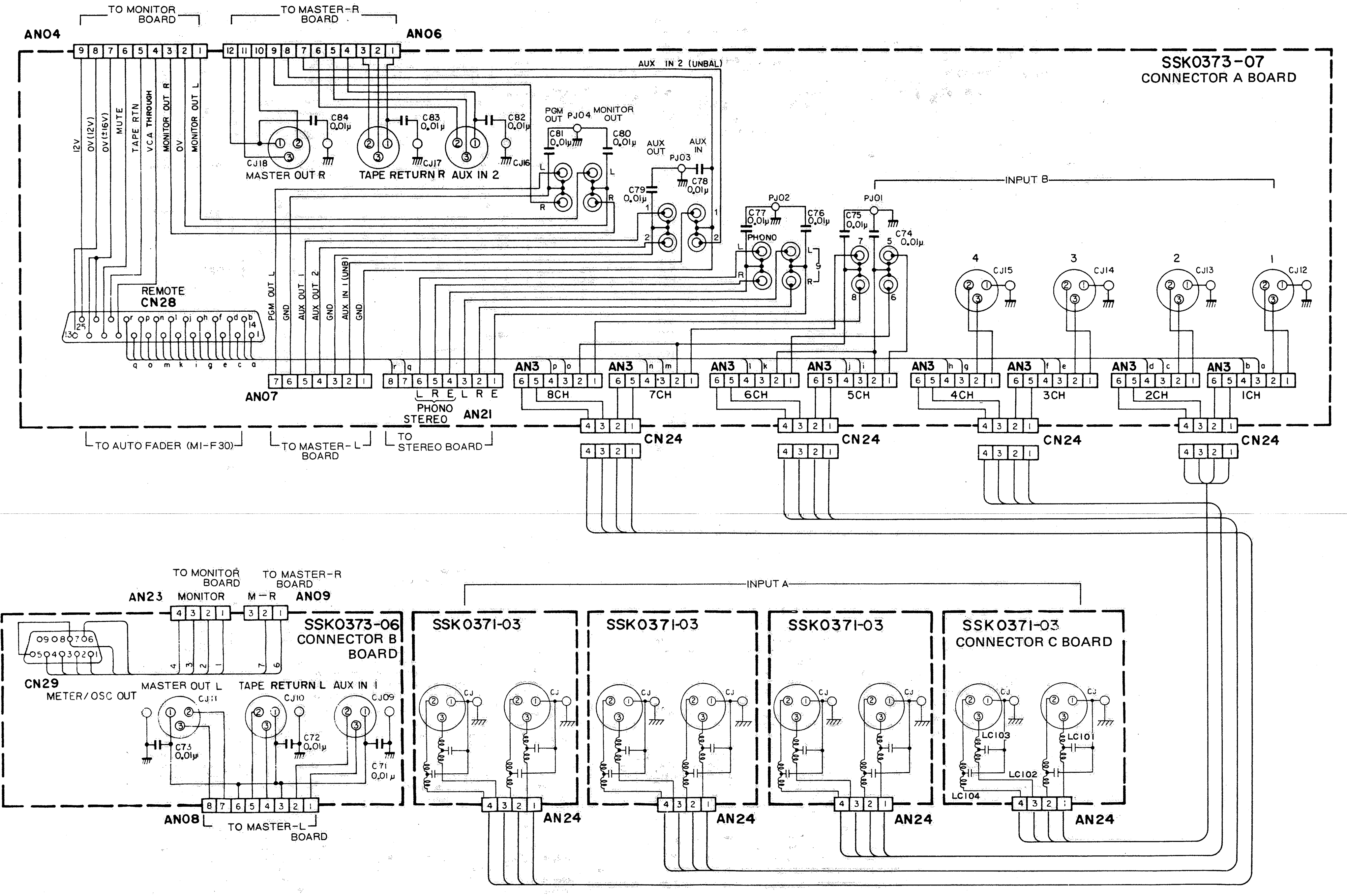

INPUT A
CH 1/2
CH 3/4
CH 5/6
AN24



CH 6/7


AN27
CJ16
AN06
12
3
11
CJ18
JVCSMTVOY
14
1
AN04

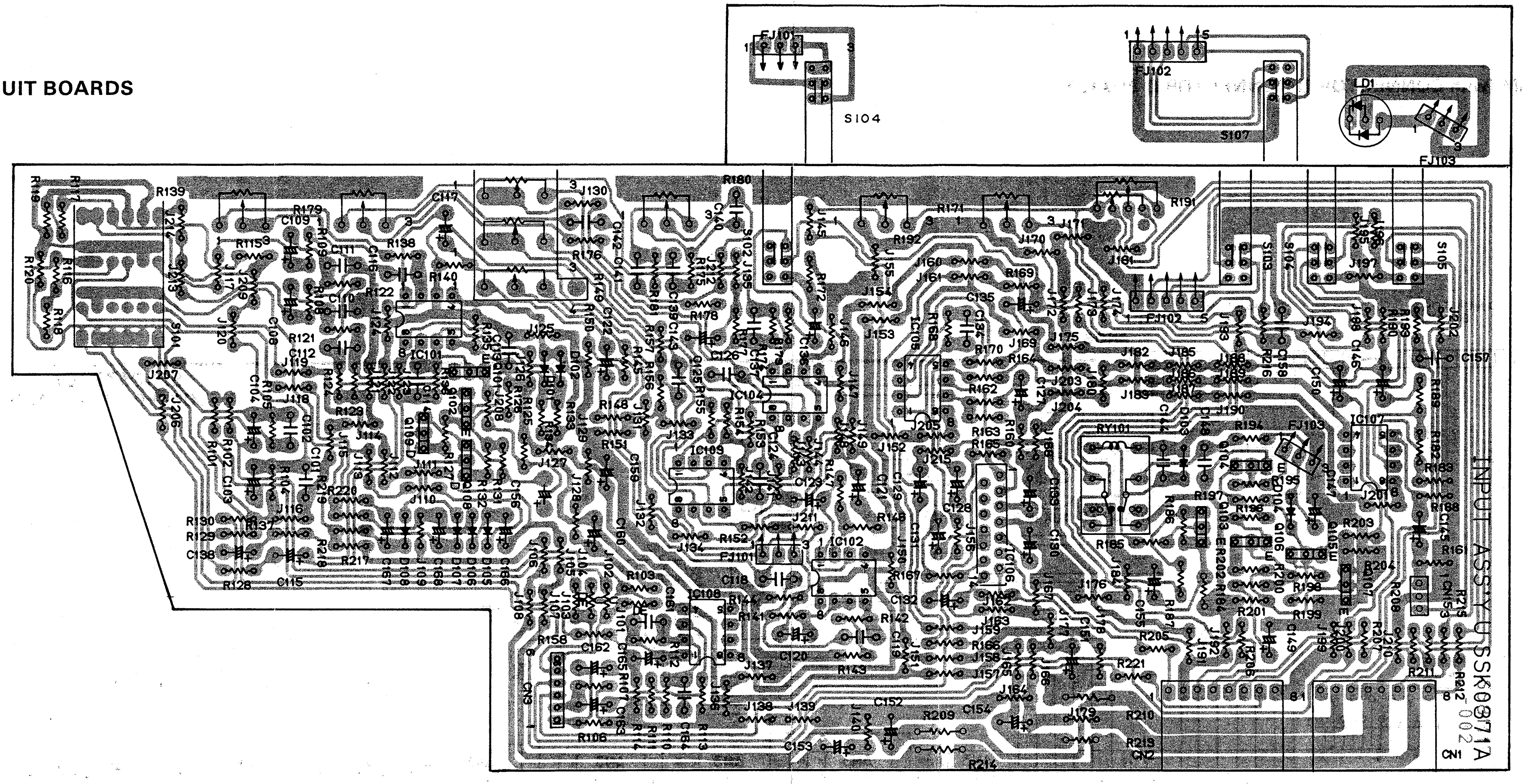
5.5 CONNECTOR A BOARD SCHEMATIC DIAGRAM (with CONNECTOR B/CONNECTOR C BOARDS)


TO MONITOR BOARD
TO MASTER-R BOARD
AN04
AN06
SSK0373-07
CONNECTOR A BOARD
AUX IN 2 (UNBAL)
12V
0V(12V)
0V(±16V)
MUTE
TAPE RTN
VCA THROUGH
MONITOR OUT R
0V
MONITOR OUT L
C84 0.01μ
C83 0.01μ
C82 0.01μ
CJ18
CJ17
CJ16
MASTER OUT R
TAPE RETURN R
AUX IN 2
PGM OUT
PJ04
MONITOR OUT
C81 0.01μ
C80 0.01μ
AUX OUT
AUX IN
PJ03
C79 0.01μ
C78 0.01μ
PJ02
C77 0.01μ
C76 0.01μ
PHONO
PJ01
C75 0.01μ
C74 0.01μ
INPUT B
CJ15
CJ14
CJ13
CJ12
REMOTE
CN28
PGM OUT L
GND
AUX OUT 1
AUX OUT 2
GND
AUX IN 1 (UNB)
GND
AN07
L R E L R E
PHONO
STEREO
AN21
AN3
8CH
7CH
6CH
5CH
4CH
3CH
2CH
1CH
CN24
TO AUTO FADER (MI-F30)
TO MASTER-L BOARD
TO STEREO BOARD
TO MONITOR BOARD
TO MASTER-R BOARD
AN23
MONITOR
M-R
AN09
SSK0373-06
CONNECTOR B BOARD
CN29
METER/OSC OUT
MASTER OUT L
TAPE RETURN L
AUX IN 1
CJ11
CJ10
CJ09
C73 0.01μ
C72 0.01μ
C71 0.01μ
AN08
TO MASTER-L BOARD
INPUT A
SSK0371-03
SSK0371-03
SSK0371-03
SSK0371-03
CONNECTOR C BOARD
LC103
LC101
LC102
LC104
AN24

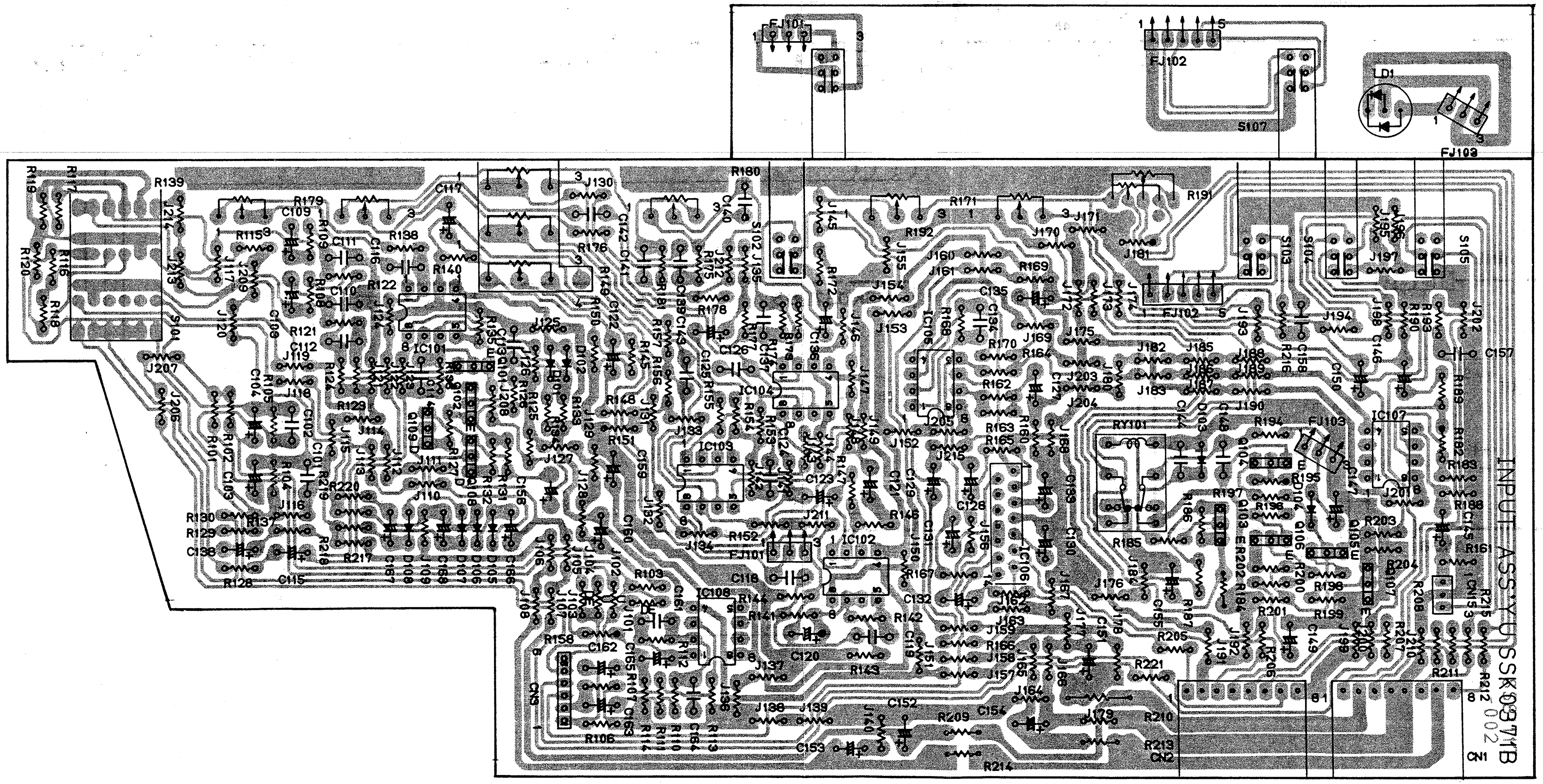
5-5

5.6 INPUT A/INPUT B CIRCUIT BOARDS

5.6.1 Input A circuit board

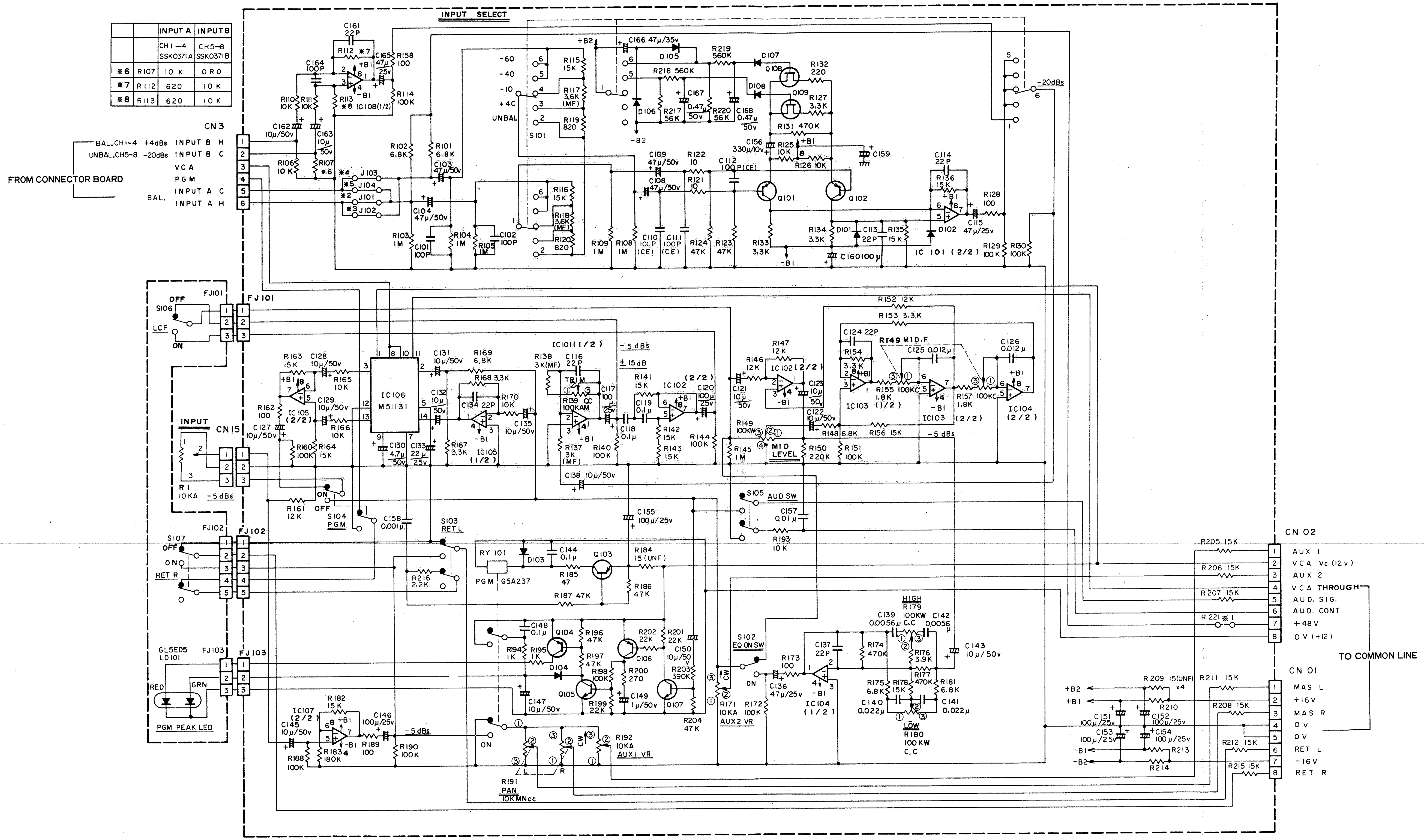

INPUT ASS'Y U SSK0371A
002
FJ101
FJ102
FJ103
S104
S107
LD1
CN1
CN2
CN3

5.6.2 Input B circuit board


INPUT ASS'Y U SSK0371B
002
FJ101
FJ102
FJ103
S107
LD1
CN1
CN2
CN3

5.7 INPUT A/INPUT B BOARDS SCHEMATIC DIAGRAM

		INPUT A	INPUT B
		CH 1 —4 SSK0371A	CH5—8 SSK0371B
※6	R107	10 K	0 R 0
※7	R112	620	10 K
※8	R113	620	10 K



FROM CONNECTOR BOARD
BAL.CH1~4 +4dBs
UNBAL.CH5~8 -20dBs
BAL.
CN3
INPUT B H
INPUT B C
VCA
PGM
INPUT A C
INPUT A H
INPUT SELECT
S101
-60
-40
-10
+4C
UNBAL
-20dBs
IC108(1/2)
Q101
Q102
IC101 (2/2)
IC101(1/2)
IC102(2/2)
IC103 (1/2)
IC103 (2/2)
IC104 (2/2)
IC104 (1/2)
IC105 (2/2)
IC105 (1/2)
IC106 M51131
IC107 (2/2)
R149 MID.F
MID LEVEL
HIGH R179 100KW C.C
LOW R180 100KW C.C
FJ101
S106
OFF
LCF
ON
INPUT
CN15
R1 10KA -5dBs
S104 PGM
S103 RET L
FJ102
S107
RET R
RY 101
PGM G5A237
Q103
Q104
Q105
Q106
Q107
S105 AUD SW
S102 EQ ON SW
R171 10KA 100K AUX2 VR
R192 10KA AUX1 VR
R191 PAN 10KMNcc
GL5ED5 LD101
FJ103
RED
GRN
PGM PEAK LED
-5dBs
±15dB
+B1
-B1
+B2
-B2
CN 02
R205 15K
R206 15K
R207 15K
R221 ※1
1 AUX 1
2 VCA Vc (12v)
3 AUX 2
4 VCA THROUGH
5 AUD. SIG.
6 AUD. CONT
7 +48V
8 0V (+12)
TO COMMON LINE
CN 01
R209 15(UNF) x4
R210
R211 15K
R208 15K
R212 15K
R213
R214
R215 15K
C151 100μ/25v
C152 100μ/25v
C153 100μ/25v
C154 100μ/25v
1 MAS L
2 +16V
3 MAS R
4 0V
5 0V
6 RET L
7 -16V
8 RET R

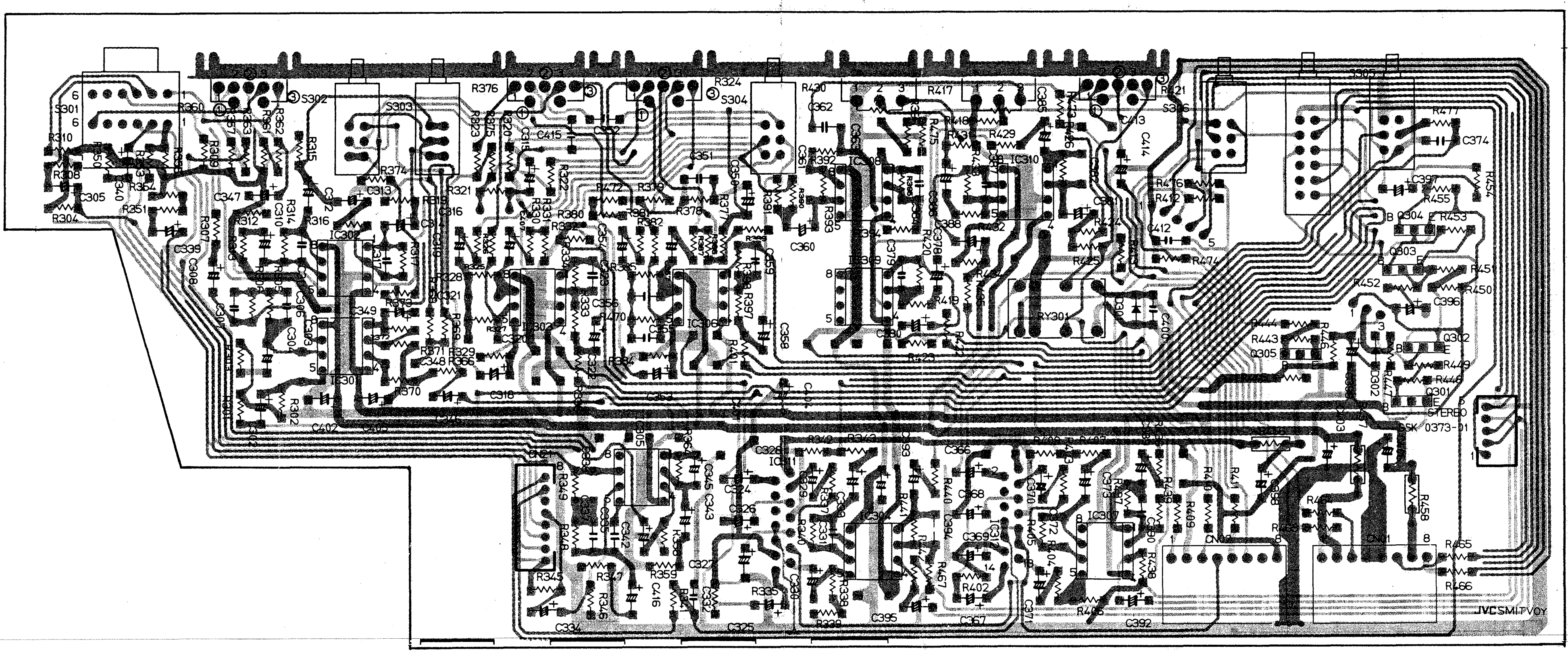
Notes: *1 : At shipment from the factory, the MI-3000 is not equipped with R221.
When a phantom power source is used, connect a jumping wire to it for shortcircuiting.

PARTS

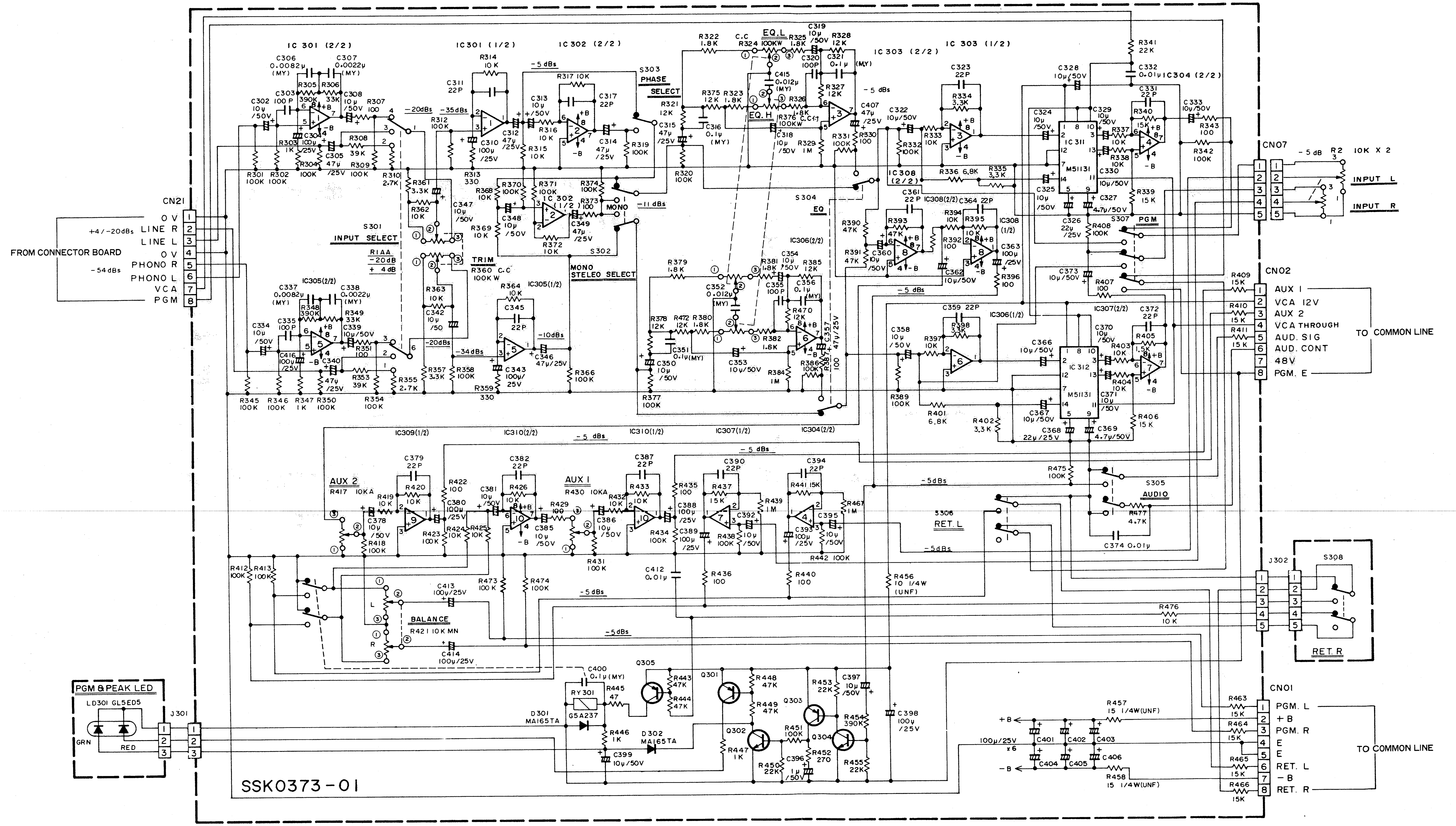
IC 101 - 105 . 107 . 108	NJM 4560D
Q 101 , 102	2SA 1316 (B , L)
Q 103 . 104 . 106	2SA 564 (R)
Q 105 . 107	2SC 1685 (R.S)
D 101 - 108	MA 165
Q 108 . 109	2SK 163 (M , N)

	*2	*3	*4	*5
Model / Symbol No.	J101	J102	J103	J104
MI-3000U	Open	Shorted	Open	Shorted
MI-3000EG/EK	Shorted	Open	Shorted	Open

5.8 STEREO INPUT CIRCUIT BOARD

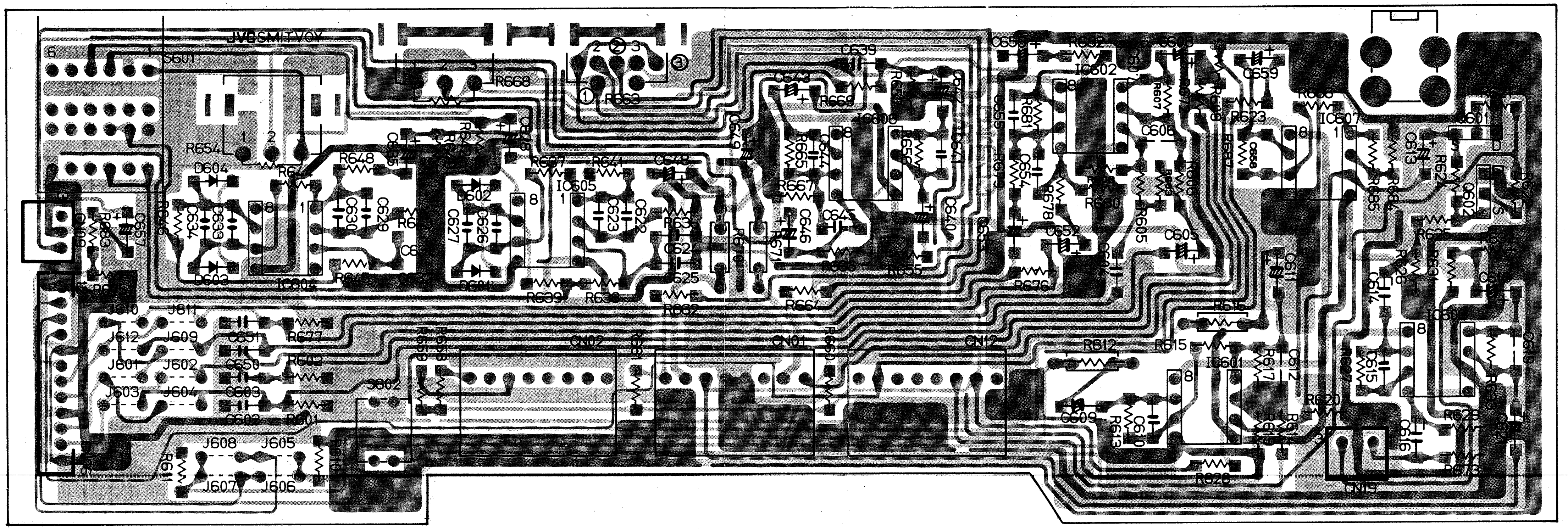

S301
S302
S303
S304
S305
R304
R310
C305
R351
C339
C347
R312
R314
R316
IC302
C313
R374
R315
R376
R321
C316
C415
R324
R430
C362
C361
C351
R392
R393
IC308
R417
R418
R429
IC310
C385
R421
C413
C414
R416
R412
C412
R474
R477
C374
C397
R455
R454
Q304
R453
Q303
R451
R450
R452
C396
R444
R443
Q305
Q302
R449
R446
Q301
STEREO
SK 0373-01
R472
R319
R360
R378
R397
C360
C358
IC306
RY301
IC303
IC301
IC309
R370
C348
R371
C318
C402
R345
R347
R359
C416
C327
R335
C334
C325
R339
C395
C367
R402
R405
IC307
C392
C373
R458
R465
R466
CN01
CN02
IC311
C328
C343
C345
R349
R346
JVC SMI-TV0Y

5.9 STEREO INPUT BOARD SCHEMATIC DIAGRAM

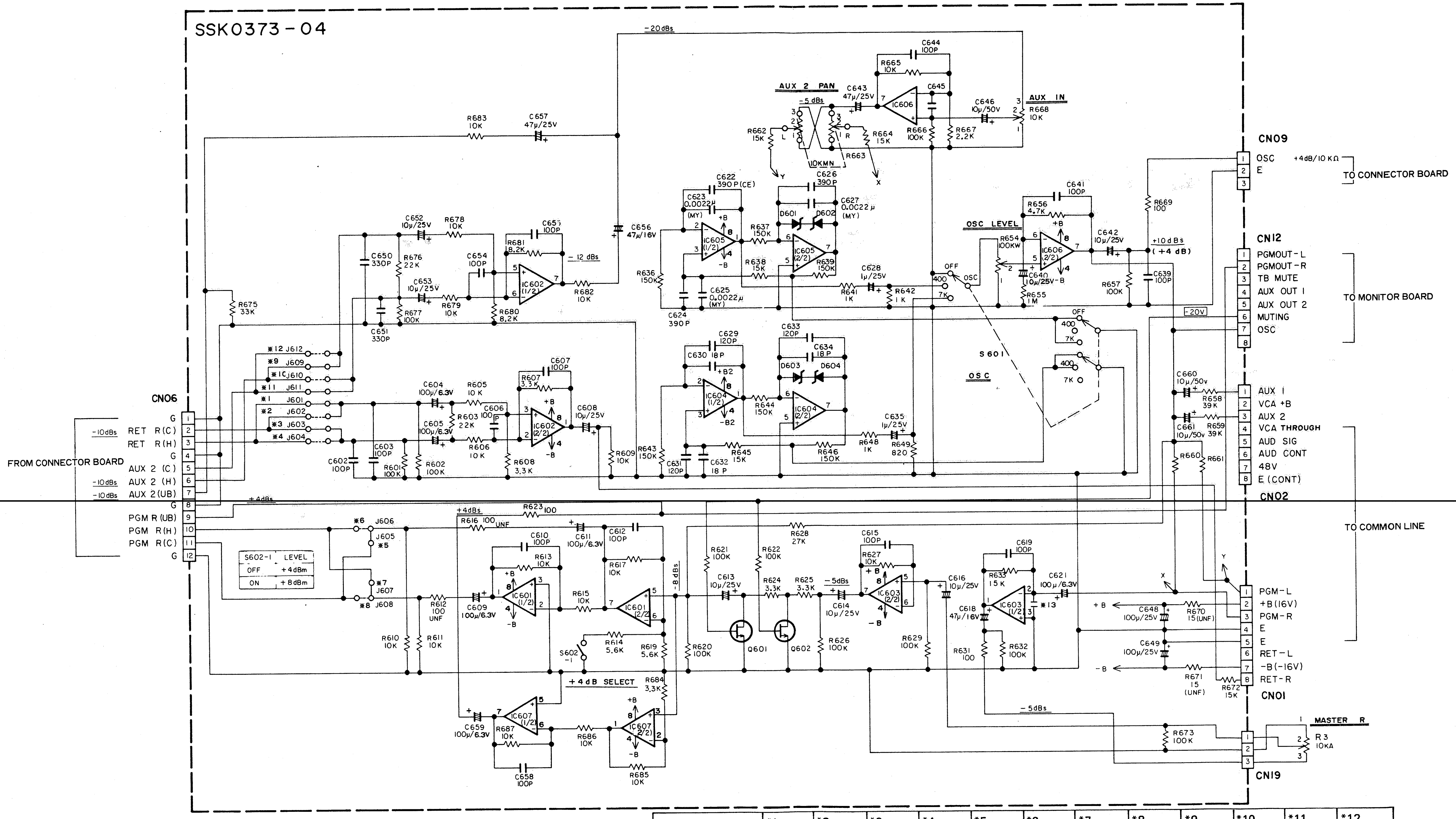

CN21
FROM CONNECTOR BOARD
+4/-20dBs
-54dBs
0 V
LINE R
LINE L
0 V
PHONO R
PHONO L
VCA
PGM
IC301 (2/2)
IC301 (1/2)
IC302 (2/2)
IC302 (1/2)
IC303 (2/2)
IC303 (1/2)
IC304 (2/2)
IC305(2/2)
IC305(1/2)
IC306(1/2)
IC306(2/2)
IC307(2/2)
IC308 (2/2)
IC308 (1/2)
IC309(1/2)
IC310(2/2)
IC310(1/2)
IC307(1/2)
IC304(2/2)
IC311 M51131
IC312 M51131
S301 INPUT SELECT
RIAA
-20dB
+4dB
TRIM
R360 C.C 100K W
S302 MONO STELEO SELECT
MONO
S303 PHASE SELECT
S304 EQ
EQ.L
EQ.H
S305 AUDIO
S306 RET. L
S307 PGM
S308
RET. R
AUX 2
AUX 1
BALANCE
R421 10K MN
CN07
-5 dB R2 10K X 2
INPUT L
INPUT R
CN02
AUX 1
VCA 12V
AUX 2
VCA THROUGH
AUD. SIG
AUD. CONT
48V
PGM. E
TO COMMON LINE
J302
CN01
PGM. L
+B
PGM. R
E
E
RET. L
-B
RET. R
TO COMMON LINE
PGM & PEAK LED
LD301 GL5ED5
GRN
RED
J301
RY301 G5A237
D301 MA165TA
D302 MA165TA
Q301
Q302
Q303
Q304
Q305
100μ/25V x6
SSK0373-01

IC301-310 (1-10) NJM4560D
Q301, 303, 305 .... 2SA564(R)
Q302, 304, 306 .... 2SC1685(R,S)

5.10 MASTER (R) CIRCUIT BOARD


JVC SMITV0Y
S601
S602
R654
R668
R669
D602
D603
D604
D601
IC604
IC605
IC606
IC601
IC602
IC603
IC607
R648
R637
R641
R639
R638
R662
R664
R665
R667
R663
R635
R630
R605
R612
R615
R617
R613
R620
R626
R623
R625
R681
R678
R676
R677
R602
R601
R611
C657
C634
C639
C630
C629
C627
C626
C623
C625
C643
C646
C647
C644
C640
C639
C606
C605
C611
C612
C610
C609
C614
C615
C616
C613
C618
C659
C652
C651
C650
C603
C602
CN02
CN01
CN12
CN19
Q602
J601
J602
J603
J604
J605
J606
J607
J608
J609
J610
J611
J612

5.11 MASTER (R) BOARD SCHEMATIC DIAGRAM


SSK0373-04
-20dBs
AUX 2 PAN
AUX IN
OSC LEVEL
CN09
OSC
E
+4dB/10KΩ
TO CONNECTOR BOARD
CN12
PGMOUT-L
PGMOUT-R
TB MUTE
AUX OUT 1
AUX OUT 2
MUTING
OSC
TO MONITOR BOARD
AUX 1
VCA +B
AUX 2
VCA THROUGH
AUD SIG
AUD CONT
48V
E (CONT)
CN02
TO COMMON LINE
PGM-L
+B(16V)
PGM-R
E
E
RET-L
-B(-16V)
RET-R
CN01
MASTER R
R3
10KA
CN19
CN06
G
RET R(C)
RET R(H)
G
AUX 2 (C)
AUX 2 (H)
AUX 2(UB)
G
PGM R (UB)
PGM R(H)
PGM R(C)
G
-10dBs
FROM CONNECTOR BOARD
S601
OSC
OFF
400
7K
+10dBs
(+4 dB)
-12 dBs
+4dBs
-5dBs
-8dBs
+4dB SELECT
S602-1
S602-1 LEVEL
OFF +4dBm
ON +8dBm
IC601
IC602
IC603
IC604
IC605
IC606
IC607
Q601
Q602
D601
D602
D603
D604
10KMN
-20V

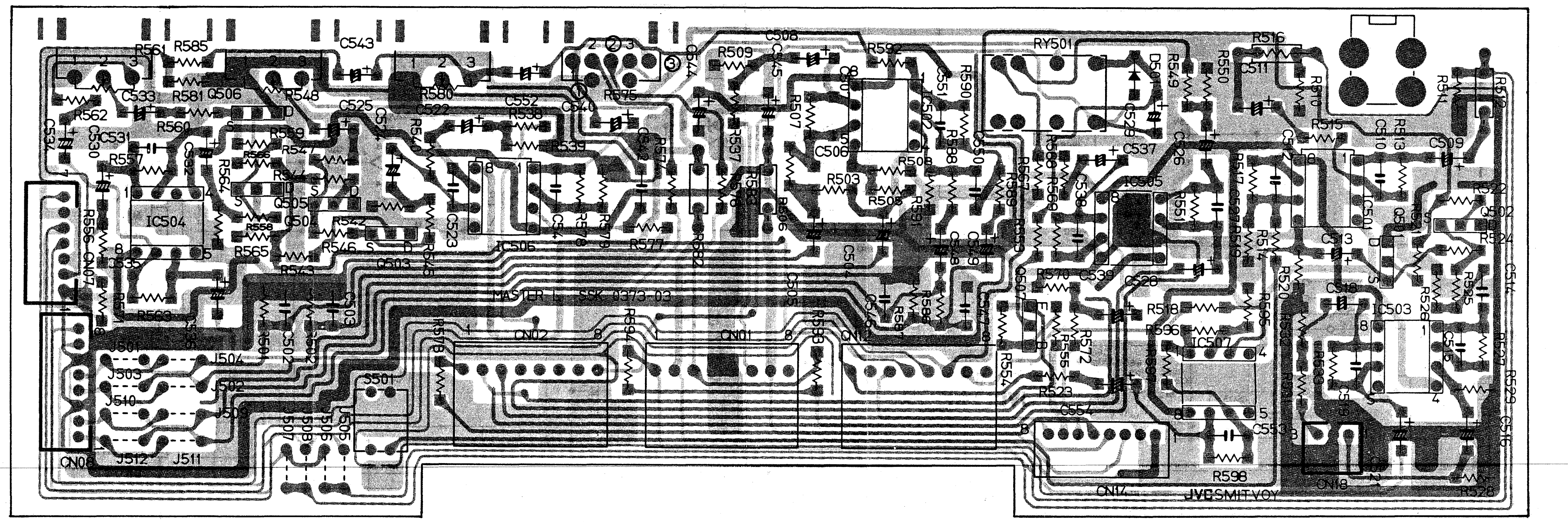
IC601— 606 NJM4560DD
Q601, 602 2SK163(M, N)
D601 — 604 HZS6.8JB2

Notes:

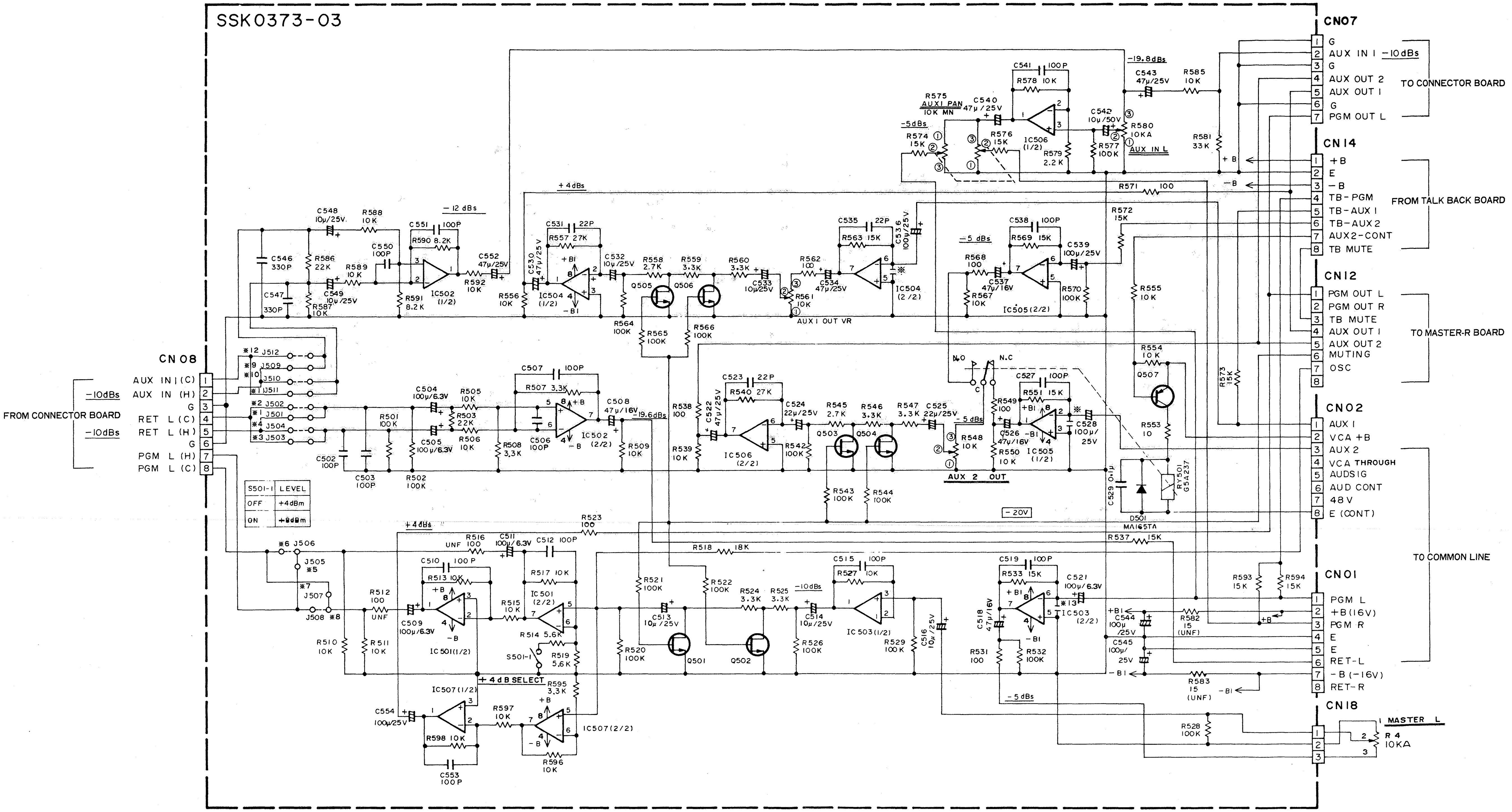
Model \ Symbol No.	*1 J601	*2 J602	*3 J603	*4 J604	*5 J605	*6 J606	*7 J607	*8 J608	*9 J609	*10 J610	*11 J611	*12 J612
MI-3000U	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted
MI-3000EG/EK	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open

*13 : ※ is a ceramic capacitor to be provided for anti-buzz noise generated in the strong electric field, and it is not provided at shipment. If buzz is generated, equip the set with a ceramic capacitor of 0.0001 μF in capacitance.

5.12 MASTER (L) CIRCUIT BOARD



5.13 MASTER (L) BOARD SCHEMATIC DIAGRAM


SSK0373-03
CN07
G
AUX IN 1 -10dBs
G
AUX OUT 2
AUX OUT 1
G
PGM OUT L
TO CONNECTOR BOARD
CN14
+B
E
-B
TB-PGM
TB-AUX 1
TB-AUX 2
AUX2-CONT
TB MUTE
FROM TALK BACK BOARD
CN12
PGM OUT L
PGM OUT R
TB MUTE
AUX OUT 1
AUX OUT 2
MUTING
OSC
TO MASTER-R BOARD
CN02
AUX 1
VCA +B
AUX 2
VCA THROUGH
AUDSIG
AUD CONT
48V
E (CONT)
TO COMMON LINE
CN01
PGM L
+B (16V)
PGM R
E
E
RET-L
-B (-16V)
RET-R
CN18
MASTER L
R 4
10KA
CN08
AUX IN 1 (C)
AUX IN (H)
G
RET L (C)
RET L (H)
G
PGM L (H)
PGM L (C)
-10dBs
-10dBs
FROM CONNECTOR BOARD
S501-1 LEVEL
OFF +4dBm
ON +8dBm
-19.8dBs
-12 dBs
+4dBs
-5dBs
-5 dBs
-19.6dBs
-10dBs
-20V
+4dB SELECT
AUX 1 PAN
AUX IN L
AUX 1 OUT VR
AUX 2 OUT
N.O
N.C
C
IC501 (1/2)
IC501 (2/2)
IC502 (1/2)
IC502 (2/2)
IC503 (1/2)
IC503 (2/2)
IC504 (1/2)
IC504 (2/2)
IC505 (1/2)
IC505 (2/2)
IC506 (1/2)
IC506 (2/2)
IC507 (1/2)
IC507 (2/2)
Q501
Q502
Q503
Q504
Q505
Q506
Q507
RY501 G5A237
D501 MA165TA
J501
J502
J503
J504
J505
J506
J507
J508
J509
J510
J511
J512
S501-1
UNF
C548 10μ/25V
R588 10K
C546 330P
C547 330P
R586 22K
R589 10K
C549 10μ/25V
R587 10K
C550 100P
C551 100P
R590 8.2K
C552 47μ/25V
R592 10K
R591 8.2K
C530 47μ/25V
C531 22P
R557 27K
R556 10K
C532 10μ/25V
R558 2.7K
R559 3.3K
R560 3.3K
C533 10μ/25V
R562 100
C534 47μ/25V
R561 10K
C535 22P
R563 15K
C536 100μ/25V
R564 100K
R565 100K
R566 100K
C541 100P
R578 10K
R575 10K MN
C540 47μ/25V
R574 15K
R576 15K
R579 2.2K
C542 10μ/50V
R577 100K
R580 10KA
C543 47μ/25V
R585 10K
R581 33K
R571 100
R572 15K
C538 100P
R569 15K
C539 100μ/25V
R568 100
C537 47μ/16V
R567 10K
R570 100K
R555 10K
R554 10K
R553 10
R573 15K
C507 100P
R507 3.3K
C504 100μ/6.3V
R505 10K
R503 22K
C505 100μ/6.3V
R506 10K
R501 100K
C502 100P
C503 100P
R502 100K
R508 3.3K
C506 100P
C508 47μ/16V
R509 10K
R538 100
R539 10K
C522 47μ/25V
C523 22P
R540 27K
C524 22μ/25V
R542 100K
R545 2.7K
R546 3.3K
R547 3.3K
C525 22μ/25V
R543 100K
R544 100K
R548 10K
C527 100P
R551 15K
R549 100
C526 47μ/16V
R550 10K
C528 100μ/25V
C529 0.1μ
R523 100
R516 100
C511 100μ/6.3V
C512 100P
R518 18K
R537 15K
C510 100P
R513 10K
R517 10K
R512 100
C509 100μ/6.3V
R515 10K
R514 5.6K
R510 10K
R511 10K
R519 5.6K
R595 3.3K
R521 100K
C513 10μ/25V
R522 100K
R524 3.3K
R525 3.3K
C514 10μ/25V
R520 100K
R526 100K
C515 100P
R527 10K
R529 100K
C516 10μ/25V
C519 100P
R533 15K
C521 100μ/6.3V
C518 47μ/16V
R531 100
R532 100K
C544 100μ/25V
C545 100μ/25V
R582 15 (UNF)
R583 15 (UNF)
R593 15K
R594 15K
R528 100K
C554 100μ/25V
R597 10K
R598 10K
C553 100P
R596 10K

PARTS

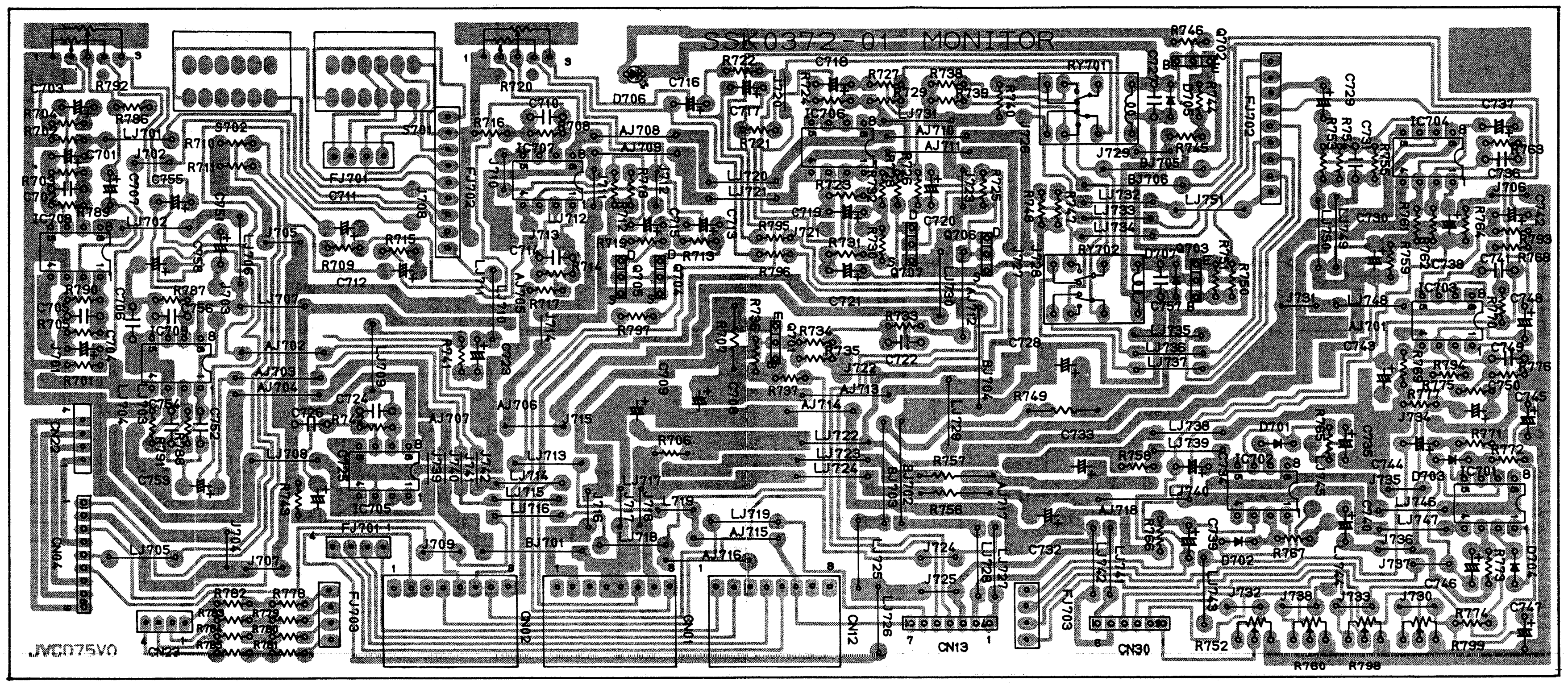
IC501 — 506	NJM4560D
Q501 — 506	2SK163(M,N)
Q507	2SA564(R)
S501	OUTPUT LEVEL SELECTOR

Notes:

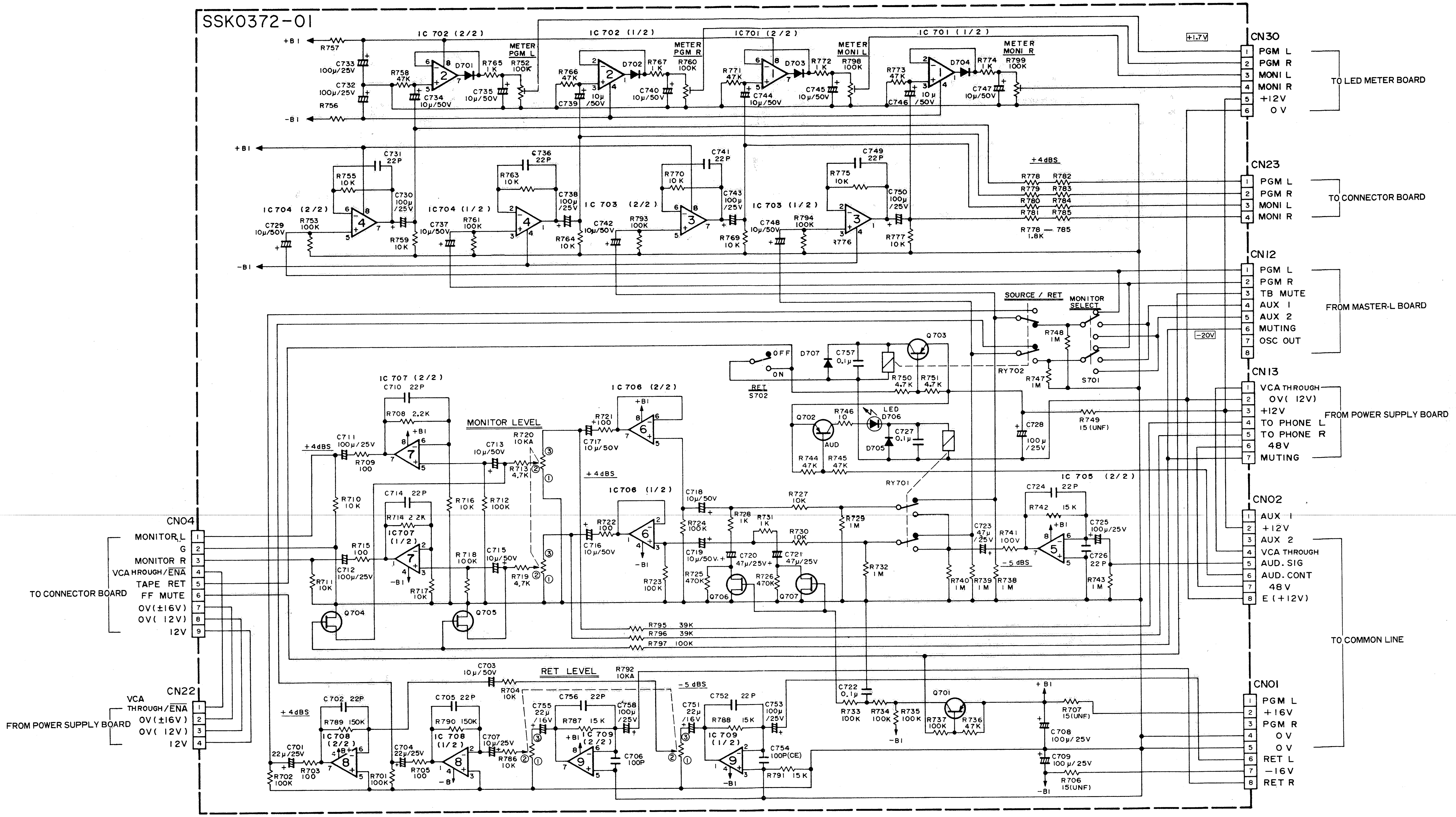
	*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12
Model \ Symbol No.	J501	J502	J503	J504	J505	J506	J507	J508	J509	J510	J511	J512
MI-3000U	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted
MI-3000EG/EK	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open	Shorted	Open

*13 : ※ is a ceramic capacitor to be provided for anti-buzz noise generated in the strong electric field, and it is not provided at shipment. If buzz is generated, equip the set with a ceramic capacitor of 0.0001 μF in capacitance.

5.14 MONITOR CIRCUIT BOARD


SSK0372-01 MONITOR
JVC075V0
RY701
RY702
S701
S702
FJ701
FJ702
FJ703
FJ708
CN01
CN02
CN12
CN13
CN23
CN30
IC701
IC702
IC703
IC704
IC705
IC706
IC707
IC708
BJ701
BJ702
BJ705
BJ706

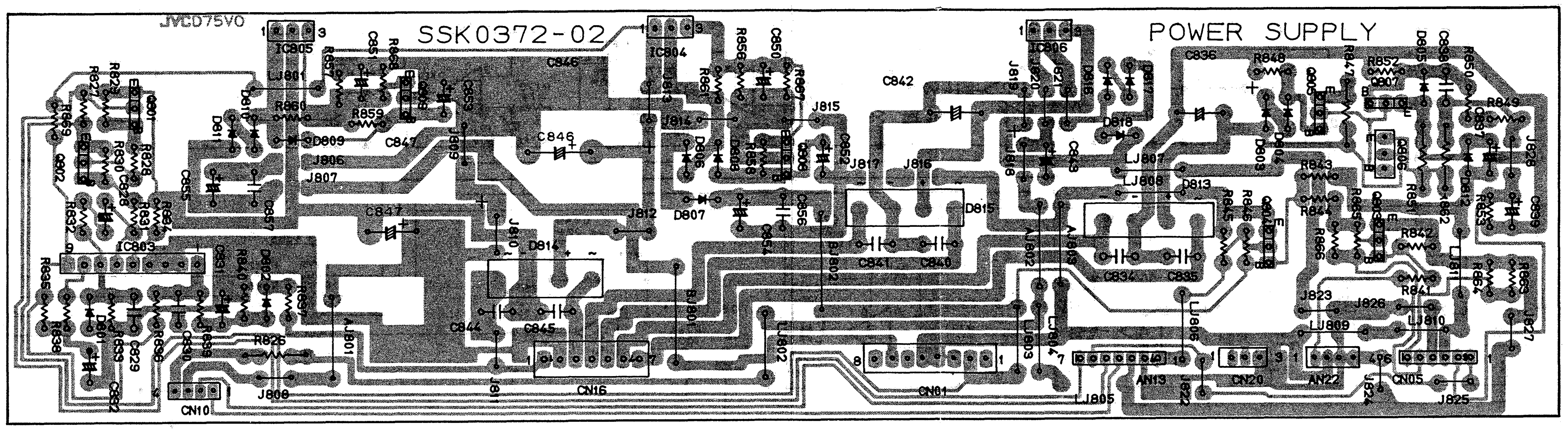
5.15 MONITOR BOARD SCHEMATIC DIAGRAM


SSK0372-01
IC 702 (2/2)
IC 702 (1/2)
IC 701 (2/2)
IC 701 (1/2)
METER PGM L
METER PGM R
METER MONI L
METER MONI R
IC 704 (2/2)
IC 704 (1/2)
IC 703 (2/2)
IC 703 (1/2)
+4dBS
R778 — 785 1.8K
CN30
PGM L
PGM R
MONI L
MONI R
+12V
0V
TO LED METER BOARD
CN23
PGM L
PGM R
MONI L
MONI R
TO CONNECTOR BOARD
CN12
PGM L
PGM R
TB MUTE
AUX 1
AUX 2
MUTING
OSC OUT
FROM MASTER-L BOARD
SOURCE / RET
MONITOR SELECT
S701
RY702
OFF
ON
RET S702
-20V
CN13
VCA THROUGH
0V(12V)
+12V
TO PHONE L
TO PHONE R
48V
MUTING
FROM POWER SUPPLY BOARD
IC 707 (2/2)
IC 706 (2/2)
IC 706 (1/2)
IC 707 (1/2)
MONITOR LEVEL
LED D706
RY701
IC 705 (2/2)
-5 dBS
CN02
AUX 1
+12V
AUX 2
VCA THROUGH
AUD. SIG
AUD. CONT
48V
E (+12V)
TO COMMON LINE
CN04
MONITOR L
G
MONITOR R
VCA THROUGH/ENA
TAPE RET
FF MUTE
0V(±16V)
0V(12V)
12V
TO CONNECTOR BOARD
CN22
VCA THROUGH/ENA
0V(±16V)
0V(12V)
12V
FROM POWER SUPPLY BOARD
RET LEVEL
IC 708 (2/2)
IC 708 (1/2)
IC 709 (2/2)
IC 709 (1/2)
CN01
PGM L
+16V
PGM R
0V
0V
RET L
-16V
RET R
+1.7V

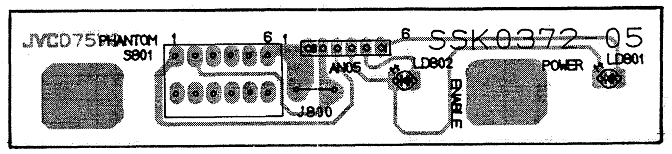
IC701 — 709 (1 9)	NJM4560D
Q701 — 703	2SA564(R)
Q704 — 707	2SK163 (M, N)
D701 — 705, 707	MA165
D706	SLR-54GG5
RY701, 702	G5A237-DC12

5.16 POWER SUPPLY CIRCUIT BOARD

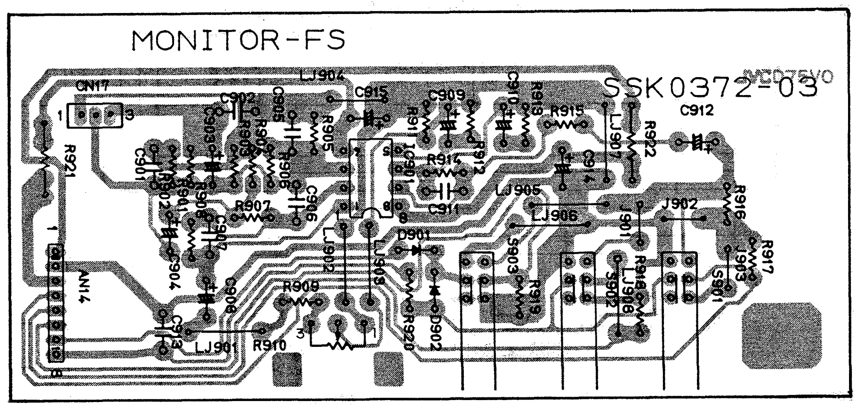
5.16.1 POWER SUPPLY CIRCUIT BOARD


JVCD75VO
SSK0372-02
POWER SUPPLY
IC805
IC804
IC806
IC803
C846
C842
C836
D814
CN16
CN01
CN10
CN20
AN13
AN22
CN05
J809
J825
LJ805

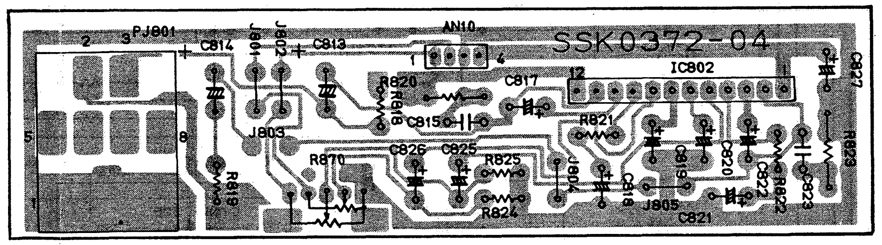
5.16.2 LED CIRCUIT BOARD


JVCD75PHANTOM
S801
SSK0372-05
AN05
LD802
ENABLE
POWER
LD801
J800

5.16.3 TALK BACK CIRCUIT BOARD

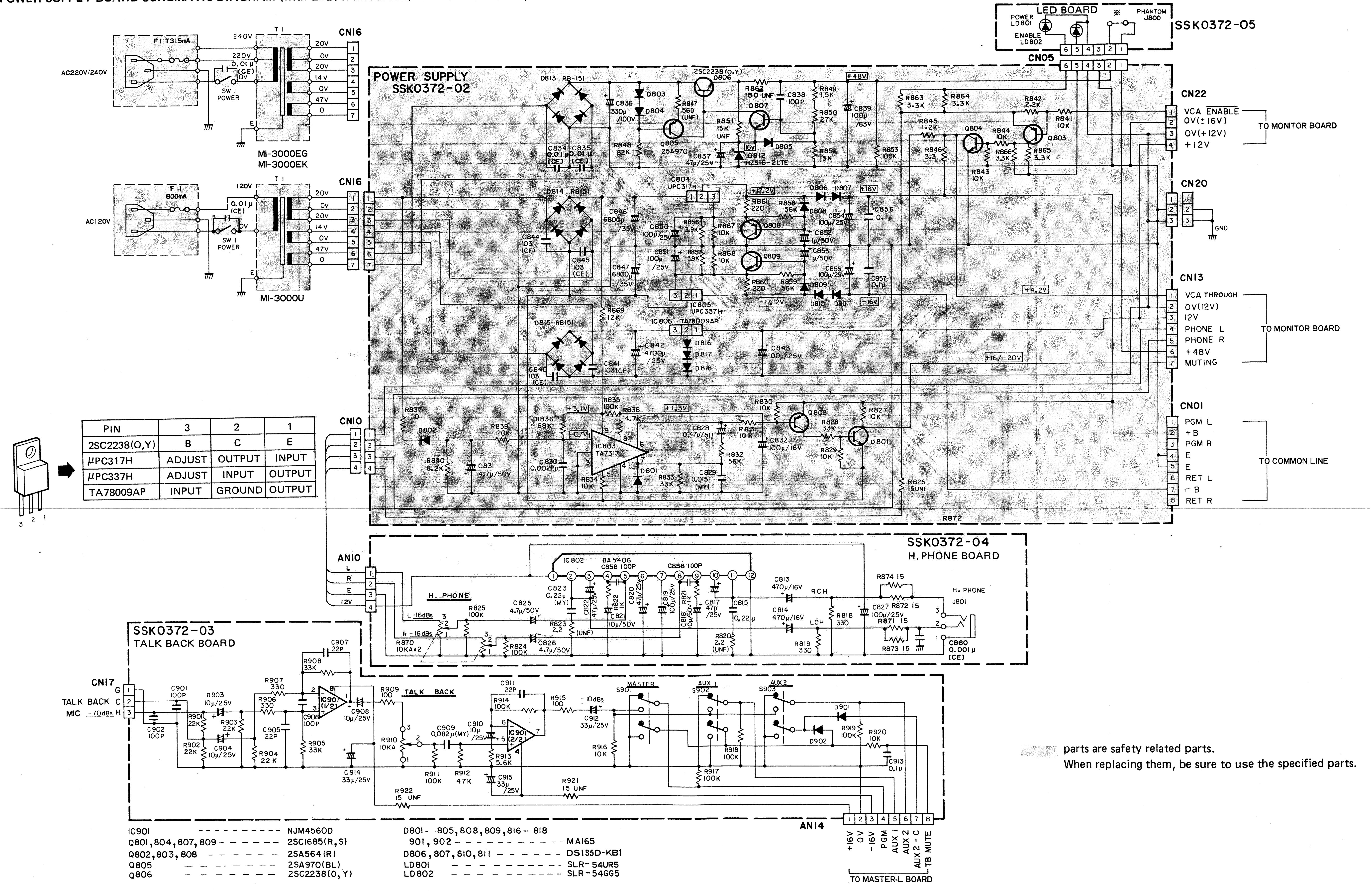

MONITOR-FS
SSK0372-03
JVCD75VO
CN17
AN14
LJ904
LJ901
R910
C912

5.16.3 H.PHONE CIRCUIT BOARD


SSK0372-04
PJ801
AN10
IC802
J803
J805
C821

5.17 POWER SUPPLY BOARD SCHEMATIC DIAGRAM (with LED/TALK BACK/H. PHONE BOARDS)

*1 : J800 is open originally.
Short this when phantom microphone is required.



LED BOARD
POWER LD801
ENABLE LD802
PHANTOM J800
SSK0372-05
CN05
F1 T315mA
AC220V/240V
240V
220V
0.01μ (CE)
0V
SW1 POWER
T1
MI-3000EG
MI-3000EK
CN16
20V
0V
20V
14V
0V
47V
0
AC120V
F1 800mA
120V
MI-3000U
POWER SUPPLY
SSK0372-02
D813 RB-151
D814 RB151
D815 RB151
2SC2238(O,Y) Q806
Q805 2SA970
Q807
Q804
Q803
Q802
Q801
Q808
Q809
D812 HZS16-2LTE
IC804 UPC317H
IC805 UPC337H
IC806 TA78009AP
IC803 TA7317
+48V
+17.2V
+16V
-17.2V
-16V
+4.2V
+16/-20V
+3.1V
+1.3V
-0.7V
R872
CN22
VCA ENABLE
0V(±16V)
0V(+12V)
+12V
TO MONITOR BOARD
CN20
GND
CN13
VCA THROUGH
0V(12V)
12V
PHONE L
PHONE R
+48V
MUTING
TO MONITOR BOARD
CN01
PGM L
+B
PGM R
E
E
RET L
-B
RET R
TO COMMON LINE
CN10
AN10
L
R
E
12V
SSK0372-04
H. PHONE BOARD
IC802 BA5406
H. PHONE
L -16dBs
R -16dBs
R870 10KAx2
RCH
LCH
H. PHONE J801
SSK0372-03
TALK BACK BOARD
CN17
TALK BACK MIC -70dBs
IC901 (1/2)
IC901 (2/2)
TALK BACK
-10dBs
MASTER S901
AUX 1 S902
AUX2 S903
D901
D902
AN14
+16V
0V
-16V
PGM
AUX 1
AUX 2
AUX 2 - C
TB MUTE
TO MASTER-L BOARD
3 2 1

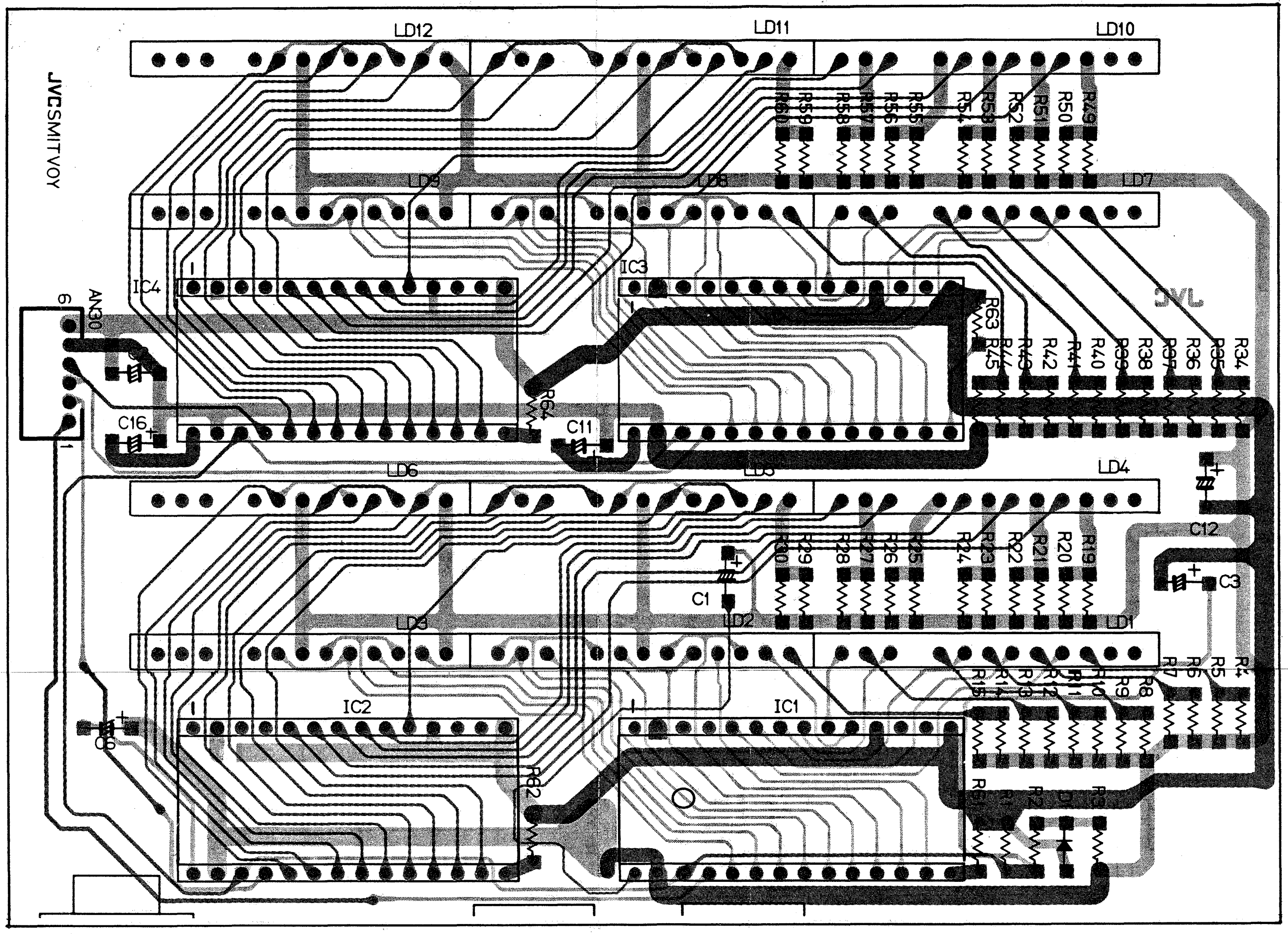
PIN	3	2	1
2SC2238(O,Y)	B	C	E
μPC317H	ADJUST	OUTPUT	INPUT
μPC337H	ADJUST	INPUT	OUTPUT
TA78009AP	INPUT	GROUND	OUTPUT

IC901 ---------- NJM4560D
Q801,804,807,809 ------ 2SC1685(R,S)
Q802,803,808 -------- 2SA564(R)
Q805 -------- 2SA970(BL)
Q806 -------- 2SC2238(O,Y)

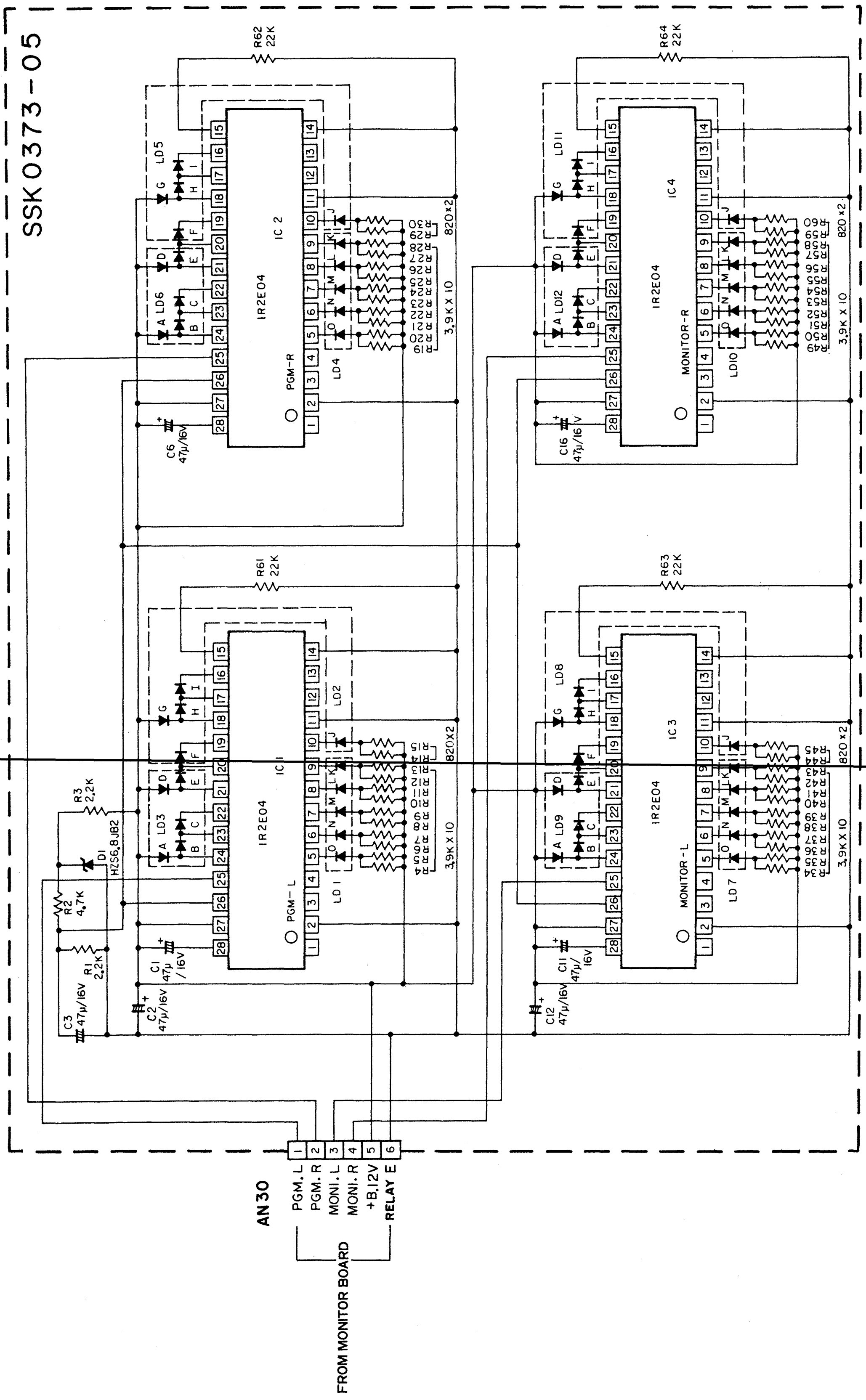
D801- 805,808,809,816-- 818
901,902 ----------- MA165
D806,807,810,811 ------ DS135D-KB1
LD801 ---------- SLR-54UR5
LD802 ---------- SLR-54GG5

▨ parts are safety related parts.
When replacing them, be sure to use the specified parts.

5.18 LED METER CIRCUIT BOARD


LD12
LD11
LD10
LD9
LD8
LD7
LD6
LD5
LD4
LD3
LD2
LD1
IC1
IC2
IC3
IC4
JVCSMITVOY
AN30
9
1
C1
C3
C6
C11
C12
C16
R62
R63
R64
R49
R50
R51
R52
R53
R54
R55
R56
R57
R58
R59
R60
R34
R35
R36
R37
R38
R39
R40
R41
R42
R43
R44
R45
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
JVC

5.19 LED METER BOARD SCHEMATIC DIAGRAM


SSK0373-05
IC 1
IC 2
IC 3
IC 4
IR2E04
PGM-L
PGM-R
MONITOR-L
MONITOR-R
R61 22K
R62 22K
R63 22K
R64 22K
C1 47μ/16V
C2 47μ/16V
C3 47μ/16V
C6 47μ/16V
C11 47μ/16V
C12 47μ/16V
C16 47μ/16V
R1 2.2K
R2 4.7K
R3 2.2K
D1 HZ5.6,8JB2
LD1
LD2
LD3
LD4
LD5
LD6
LD7
LD8
LD9
LD10
LD11
LD12
3.9K X 10
820X2
AN30
PGM. L
PGM. R
MONI. L
MONI. R
+B,12V
RELAY E
FROM MONITOR BOARD

LD1,4,7,10 — GL-107R12
LD2,3,5,6,8,9,11,12 — GL-107G12

LEVEL

IC/LED	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
IR-2E04	-30	-20	-15	-10	-7	-5	-3	-2	-1	0	+1	+2	+3	+5	+7	+10

SECTION 6
ELECTRICAL PARTS LIST

1. **IMPORTANT SAFETY NOTICE**
   Parts identified by the ⚠ symbol are critical for safety. Replace with parts number specified. For maximum reliability and performance, all other replacement parts should be identical to those specified.

2. Abbreviations in this list are as follows:

RESISTORS — All resistance values are in ohms (Ω).

K : 1 000
M : 1 000 000
CR : Carbon Resistor
Comp. R: Composition Resistor
WR : Wire Wound Resistor
OMR : Oxide Metal Film Resistor
VR : Variable Resistor (Potentiometer)
MFR : Metal Film Resistor

CAPACITORS — All capacitance values are in μF, unless otherwise indicated.

P : μμF
C Cap : Ceramic Capacitor
E Cap : Electrolytic Capacitor
FM Cap : Film Mica Capacitor
MM Cap : Metalized Mylar Capacitor
MP Cap : Metalized Paper Capacitor
MY Cap : Mylar Capacitor
NP Cap : Non-polar Capacitor
PC Cap : Polycarbonate Capacitor
PP Cap : Poly Pro Capacitor
PS Cap : Polystyrol Capacitor
T Cap : Tantalum Capacitor
TR Cap : Trimmer Capacitor

Tolerances of resistors or capacitors are as follows:

M : ± 20 %
K : ± 10 %
J : ± 5 %
G : ± 2 %
F : ± 1 %

6.1 INPUT A/INPUT B BOARDS

0 1 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC101	NJM4560DD	IC	JRC
IC102	NJM4560DD	IC	JRC
IC103	NJM4560DD	IC	JRC
IC104	NJM4560DD	IC	JRC
IC105	NJM4560DD	IC	JRC
IC106	M51131L	IC	MITSUBISHI
IC107	NJM4560DD	IC	JRC
IC108	NJM4560DD	IC	JRC
Q101	2SA1316(BL)	Transistor	TOSHIBA
Q102	2SA1316(BL)	Transistor	TOSHIBA
Q103	2SA564(R)	Transistor	MATSUSHITA
Q104	2SA564(R)	Transistor	MATSUSHITA
Q105	2SC1685(R.S)	Transistor	MATSUSHITA
Q106	2SA564(R)	Transistor	MATSUSHITA
Q107	2SC1685(R.S)	Transistor	MATSUSHITA
Q108	2SK163(M.N)	FET	NEC
Q109	2SK163(M.N)	FET	NEC
D101	MA165	Diode	MATSUSHITA
D102	MA165	Diode	MATSUSHITA
D103	MA165	Diode	MATSUSHITA
D104	MA165	Diode	MATSUSHITA
D105	MA165	Diode	MATSUSHITA
D106	MA165	Diode	MATSUSHITA
D107	MA165	Diode	MATSUSHITA
D108	MA165	Diode	MATSUSHITA
LD101	GL5ED5	LED	
C101	QCS31HJ-101	C Cap	100 P
C102	QCS31HJ-101	C Cap	100 P
C103	QETC1HM-476	E Cap	47 50 V
C104	QETC1HM-476	E Cap	47 50 V
C108	QETC1HM-476	E Cap	47 50 V
C109	QETC1HM-476	E Cap	47 50 V
C110	QCS31HJ-101	C Cap	100 P
C111	QCS31HJ-101	C Cap	100 P
C112	QCS31HJ-101	C Cap	100 P
C113	QCS31HJ-220	C Cap	22 P
C114	QCS31HJ-220	C Cap	22 P
C115	QETC1EM-476	E Cap	47 25 V
C116	QCS31HJ-220	C Cap	22 P
C117	QETC1EM-107	E Cap	100 25 V
C118	QFN31HJ-104	MY Cap	0.1 50 V
C119	QFN31HJ-104	MY Cap	0.1 50 V
C120	QETC1EM-107	E Cap	100 25 V
C121	QETC1HM-106	E Cap	10 50 V
C122	QETC1HM-106	E Cap	10 50 V

Symbol No.	Part No.	Part Name	Description	
C123	QETC1HM-106	E Cap	10	50 V
C124	QCS31HJ-220	C Cap	22 P	
C125	QFN31HJ-123	MY Cap	0.012	50 V
C126	QFN31HJ-123	MY Cap	0.012	50 V
C127	QETC1HM-106	E Cap	10	50 V
C128	QETC1HM-106	E Cap	10	50 V
C129	QETC1HM-106	E Cap	10	50 V
C130	QETC1HM-475	E Cap	47	50 V
C131	QETC1HM-106	E Cap	10	50 V
C132	QETC1HM-106	E Cap	10	50 V
C133	QETC1EM-226	E Cap	22	25 V
C134	QCS31HJ-220	C Cap	22 P	
C135	QETC1HM-106	E Cap	10	50 V
C136	QETC1EM-476	E Cap	47	25 V
C137	QCS31HJ-220	C Cap	22 P	
C138	QETC1HM-106	E Cap	10	50 V
C139	QFN31HJ-562	MY Cap	0.0056	50 V
C140	QFN31HJ-223	MY Cap	0.022	50 V
C141	QFN31HJ-223	MY Cap	0.022	50 V
C142	QFN31HJ-562	MY Cap	0.056	50 V
C143	QETC1HM-106	E Cap	10	50 V
C144	QFN31HJ-104	MY Cap	0.1	50 V
C145	QETC1HM-106	E Cap	10	50 V
C146	QETC1EM-107	E Cap	100	25 V
C147	QETC1HM-106	E Cap	10	50 V
C148	QFN31HJ-104	MY Cap	0.1	50 V
C149	QETC1HM-105	E Cap	1	50 V
C150	QETC1HM-106	E Cap	10	50 V
C151	QETC1EM-107	E Cap	100	25 V
C152	QETC1EM-107	E Cap	100	25 V
C153	QETC1EM-107	E Cap	100	25 V
C154	QETC1EM-107	E Cap	100	25 V
C155	QETC1EM-107	E Cap	100	25 V
C156	QETC1AM-337	E Cap	330	10 V
C157	QFN31HJ-103	MY Cap	0.01	50 V
C158	QFN31HJ-102	MY Cap	0.001	50 V
C159	QETC1EM-107	E Cap	100	25 V
C160	QETC1EM-107	E Cap	100	25 V
C161	QCS31HJ-220	C Cap	22 P	
C162	QETC1HM-106	E Cap	10	50 V
C163	QETC1HM-106	E Cap	10	50 V
C164	QCS31HJ-101	C Cap	100 P	
C165	QETC1EM-476	E Cap	47	25 V
C166	QETC1HM-476	E Cap	47	50 V
C167	QETC1HM-474	E Cap	0.47	50 V
C168	QETC1HM-474	E Cap	0.47	50 V
R101	QRD161J-682	CR	6.8 K	1/6 W
R102	QRD161J-682	CR	6.8 K	1/6 W
R103	QRD161J-105	CR	1 M	1/6 W
R104	QRD161J-105	CR	1 M	1/6 W
R105	QRD161J-105	CR	1 M	1/6 W
R106	QRD161J-103	CR	10 K	
R107	QRD161J-103	CR	Input A (1–4CH)	
R107	QRD161J-0R0	CR	Input B (5–8CH)	
R108	QRD161J-105	CR	1 M	1/6 W
R109	QRD161J-105	CR	1 M	1/6 W
R110	QRD161J-103	CR	10 K	1/6 W

Symbol No.	Part No.	Part Name	Description	
R111	QRD161J-103	CR	10 K	1/6 W
R112	QRV141F-6200	MFR	] Input A (1–4CH)	
R113	QRV141F-6200	MFR		
R112	QRD161J-103	CR	] Input B (5–8 CH)	
R113	QRD161J-103	CR		
R114	QRD161J-104	CR	100 K	1/6 W
R115	QRD161J-153	CR	15 K	1/6 W
R116	QRD161J-153	CR	15 K	1/6 W
R117	QRV141F-360	MFR		
R118	QRV141F-360	MFR		
R119	QRD161J-821	CR	820	1/6 W
R120	QRD161J-821	CR	820	1/6 W
R121	QRD161J-100	CR	10	1/6 W
R122	QRD161J-100	CR	10	1/6 W
R123	QRD161J-473	CR	47 K	1/6 W
R124	QRD161J-473	CR	47 K	1/6 W
R125	QRD161J-103	CR	10 K	1/6 W
R126	QRD161J-103	CR	10 K	1/6 W
R127	QRD161J-332	CR	3.3 K	1/6 W
R128	QRD161J-101	CR	100	1/6 W
R129	QRD161J-104	CR	100 K	1/6 W
R130	QRD161J-104	CR	100 K	1/6 W
R131	QRD161J-474	CR	470 K	1/6 W
R132	QRD161J-221	CR	220	1/6 W
R133	QRD161J-332	CR	3.3 K	1/6 W
R134	QRD161J-332	CR	3.3 K	1/6 W
R135	QRD161J-153	CR	15 K	1/6 W
R136	QRD161J-153	CR	15 K	1/6 W
R137	QRD161J-392	CR	3.9 K	1/6 W
R138	QRD161J-392	CR	3.9 K	1/6 W
R139	QVCA07A-S15	VR	100K TRIM LEVEL	
R140	QRD161J-104	CR	100 K	1/6 W
R141	QRD161J-153	CR	15 K	1/6 W
R142	QRD161J-153	CR	15 K	1/6 W
R143	QRD161J-153	CR	15 K	1/6 W
R144	QRD161J-104	CR	100 K	1/6 W
R145	QRD161J-105	CR	1 M	1/6 W
R146	QRD161J-123	CR	12 K	1/6 W
R147	QRD161J-123	CR	12 K	1/6 W
R148	QRD161J-682	CR	6.8 K	1/6 W
R149	QVZ1710-002	VR	100K MID LEVEL	
R150	QRD161J-224	CR	220 K	1/6 W
R151	QRD161J-104	CR	100 K	1/6 W
R152	QRD161J-123	CR	12 K	1/6 W
R153	QRD161J-332	CR	3.3 K	1/6 W
R154	QRD161J-332	CR	3.3 K	1/6 W
R155	QRD161J-182	CR	1.8 K	1/6 W
R156	QRD161J-153	CR	15 K	1/6 W
R157	QRD161J-182	CR	1.8 K	1/6 W
R158	QRD161J-101	CR	100	1/6 W
R160	QRD161J-104	CR	100 K	1/6 W
R161	QRD161J-123	CR	12 K	1/6 W
R162	QRD161J-101	CR	100	1/6 W
R163	QRD161J-153	CR	15 K	1/6 W
R164	QRD161J-153	CR	15 K	1/6 W
R165	QRD161J-103	CR	10 K	1/6 W
R166	QRD161J-103	CR	10 K	1/6 W
R167	QRD161J-332	CR	3.3 K	1/6 W
R168	QRD161J-332	CR	3.3 K	1/6 W
R169	QRD161J-682	CR	6.8 K	1/6 W

Symbol No.	Part No.	Part Name	Description
R170	QRD161J-103	CR	10 K 1/6 W
R171	QVCAO1A-S14	VR	10K AUX 2 LEVEL
R172	QRD161J-104	CR	100 K 1/6 W
R173	QRD161J-101	CR	100 1/6 W
R174	QRD161J-474	CR	470 K 1/6 W
R175	QRD161J-682	CR	6.8 K 1/6 W
R176	QRD161J-392	CR	3.9 K 1/6 W
R177	QRD161J-474	CR	470 K 1/6 W
R178	QRD161J-153	CR	15 K 1/6 W
R179	QVCAO5W-S15	VR	100K HIGH LEVEL
R180	QVCAO5W-S15	VR	100K LOW LEVEL
R181	QRD161J-682	CR	6.8 K 1/6 W
R182	QRD161J-153	CR	15 K 1/6 W
R183	QRD161J-184	CR	180 K 1/6 W
R183	QRD161J-184	CR	180 K 1/6 W
R184	QRD14CJ-150	UNFR	15 K 1/4 W
R185	QRD161J-470	CR	47 K 1/6 W
R186	QRD161J-473	CR	47 K 1/6 W
R187	QRD161J-473	CR	47 K 1/6 W
R188	QRD161J-104	CR	100 K 1/6 W
R189	QRD161J-101	CR	100 1/6 W
R190	QRD161J-104	CR	100 K 1/6 W
R191	QVCBO4M-S14	VR	10 K PAN LEVEL
R192	QVCAO1A-S14	VR	10 K AUX 1 LEVEL
R193	QRD161J-103	CR	10 K 1/6 W
R194	QRD161J-102	CR	1 K 1/6 W
R195	QRD161J-102	CR	1 K 1/6 W
R196	QRD161J-473	CR	47 K 1/6 W
R197	QRD161J-473	CR	47 K 1/6 W
R198	QRD161J-104	CR	100 K 1/6 W
R199	QRD161J-223	CR	2.2 K 1/6 W
R200	QRD161J-271	CR	270 1/6 W
R201	QRD161J-223	CR	22 K 1/6 W
R202	QRD161J-223	CR	22 K 1/6 W
R203	QRD161J-394	CR	390 K 1/6 W
R204	QRD161J-473	CR	47 K 1/6 W
R205	QRD161J-153	CR	15 K 1/6 W
R206	QRD161J-153	CR	15 K 1/6 W
R207	QRD161J-153	CR	15 K 1/6 W
R208	QRD161J-153	CR	15 K 1/6 W
R209	QRD14CJ-150	UNFR	
R210	QRD14CJ-150	UNFR	
R211	QRD161J-153	CR	15 K 1/6 W
R212	QRD161J-153	CR	15 K 1/6 W
R213	QRD14CJ-150	UNFR	
R214	QRD14CJ-150	UNFR	
R215	QRD161J-153	CR	15 K 1/6 W
R216	QRD161J-222	CR	2.2 K 1/6 W
R217	QRD161J-563	CR	56 K 1/6 W
R218	QRD161J-564	CR	560 K 1/6 W
R219	QRD161J-564	CR	560 K 1/6 W
R220	QRD161J-563	CR	56 K 1/6 W
R221	QRD161J-563	CR	56 K 1/6 W
RY101	G5A237-DC12	RELAY	

Symbol No.	Part No.	Part Name	Description
S101	QSR2B65-S01	ROTARY Switch	INPUT SELECT
S102	QST3141-S02	P. Switch	EQ
S103	QST3141-S02	P. Switch	TAPE RETURN L
S104	QST3141-S02	P. Switch	PGM
S105	QST3141-S02	P. Switch	PFL
S106	QST3141-S02	P. Switch	LCF
S107	QST3141-S02	P. Switch	TAPE RETURN R
CN1	SS30662-008	Connector	8-pin
CN2	SS30662-008	Connector	8-pin
CN3	SCV1227-006	Connector	6-pin
CN15	SCV1227-003	Connector	3-pin
FJ101	SS43181-035	Flexible Jumper	
FJ102	SS43181-054	Flexible Jumper	
FJ103	SS43181-035	Flexible Jumper	

6.2 STEREO INPUT board assembly 02

Symbol No.	Part No.	Part Name	Description
IC301	NJM4560DD	IC	JRC
IC302	NJM4560DD	IC	JRC
IC303	NJM4560DD	IC	JRC
IC304	NJM4560DD	IC	JRC
IC305	NJM4560DD	IC	JRC
IC306	NJM4560DD	IC	JRC
IC307	NJM4560DD	IC	JRC
IC308	NJM4560DD	IC	JRC
IC309	NJM4560DD	IC	JRC
IC310	NJM4560DD	IC	JRC
IC311	M51131L	IC	MITSUBISHI
IC311	M51131L	IC	MITSUBISHI
Q301	2SA564(R)	Transistor	MATSUSHITA
Q302	2SC1685(R.S)	Transistor	MATSUSHITA
Q303	2SA564(R)	Transistor	MATSUSHITA
Q304	2SC1685(R.S)	Transistor	MATSUSHITA
Q305	2SA564(R)	Transistor	MATSUSHITA
D301	MA165	Diode	MATSUSHITA
D302	MA165	Diode	MATSUSHITA
LD301	GL5ED5	LED	
C302	QETC1HM-106	E Cap	10 50 V
C303	QCS31HJ-101	C Cap	100 P
C304	QETC1EM-107	E Cap	100 25 V
C305	QETC1EM-476	E Cap	47 25 V
C306	QFN31HJ-822	MY Cap	0.0082 50 V
C307	QFN31HJ-222	MY Cap	0.0022 50 V
C308	QETC1HM-106	E Cap	10 50 V
C310	QETC1EM-107	E Cap	100 25 V
C311	QCS31HJ-220	C Cap	22 P
C312	QETC1EM-476	E Cap	47 25 V
C313	QETC1HM-106	E Cap	10 50 V
C314	QETC1EM-476	E Cap	47 25 V
C315	QETC1EM-476	E Cap	47 25 V
C316	QFN31HJ-104	MY Cap	0.1 50 V
C317	QCS31HJ-220	C Cap	22 P
C318	QETC1HM-106	E Cap	10 50 V
C319	QETC1HM-106	E Cap	10 50 V
C320	QCS31HJ-101	C Cap	100 P
C321	QFN31HJ-104	MY Cap	0.1 50 V
C322	QETC1HM-106	E Cap	10 50 V
C323	QCS31HJ-220	C Cap	22 P
C324	QETC1HM-106	E Cap	10 50 V
C325	QETC1HM-106	E Cap	10 50 V

Symbol No.	Part No.	Part Name	Description
C326	QETC1EM-226	E Cap	22 25 V
C327	QETC1HM-475	E Cap	47 50 V
C328	QETC1HM-106	E Cap	10 50 V
C329	QETC1HM-106	E Cap	10 50 V
C330	QETC1HM-106	E Cap	10 50 V
C331	QCS31HJ-220	C Cap	22 P
C332	QFN31HJ-103	MY Cap	0.01 50 V
C333	QETC1HM-106	E Cap	10 50 V
C334	QETC1HM-106	E Cap	10 50 V
C335	QCS31HJ-101	C Cap	100 P
C337	QFN31HJ-822	MY Cap	0.0082 50 V
C338	QFN31HJ-222	MY Cap	0.0022 50 V
C339	QETC1HM-106	E Cap	10 50 V
C340	QETC1EM-476	E Cap	47 25 V
C342	QETC1HM-106	E Cap	10 50 V
C343	QETC1EM-107	E Cap	10 25 V
C345	QCS31HJ-220	C Cap	22 P
C346	QETC1EM-476	E Cap	47 25 V
C347	QETC1HM-106	E Cap	10 50 V
C348	QETC1HM-106	E Cap	10 50 V
C349	QETC1EM-476	E Cap	47 25 V
C350	QETC1HM-106	E Cap	10 50 V
C351	QFN31HJ-104	MY Cap	0.1 50 V
C352	QFN31HJ-123	MY Cap	0.012 50 V
C353	QETC1HM-106	E Cap	10 50 V
C354	QETC1HM-106	E Cap	10 50 V
C355	QCS31HJ-101	C Cap	100 P
C356	QFN31HJ-104	MY Cap	0.1 50 V
C357	QETC1EM-476	E Cap	47 25 V
C358	QETC1HM-106	E Cap	10 50 V
C359	QCS31HJ-220	C Cap	22 P
C360	QETC1HM-106	E Cap	10 50 V
C361	QCS31HJ-220	C Cap	22 P
C362	QETC1HM-106	E Cap	10 50 V
C363	QETC1EM-107	E Cap	100 25 V
C364	QCS31HJ-220	C Cap	22 P
C366	QETC1HM-106	E Cap	10 50 V
C367	QETC1HM-106	E Cap	10 50 V
C368	QETC1EM-226	E Cap	22 25 V
C369	QETC1HM-475	E Cap	4.7 50 V
C370	QETC1HM-106	E Cap	10 50 V
C371	QETC1HM-106	E Cap	10 50 V
C372	QCS31HJ-220	C Cap	22 P
C373	QETC1HM-106	E Cap	10 50 V
C374	QFN31HJ-103	MY Cap	0.01 50 V
C378	QETC1HM-106	E Cap	10 50 V
C379	QCS31HJ-220	C Cap	22 P
C380	QETC1EM-107	E Cap	100 25 V
C381	QETC1HM-106	E Cap	10 50 V
C382	QCS31HJ-220	C Cap	22 P
C385	QETC1HM-106	E Cap	10 50 V
C386	QETC1HM-106	E Cap	10 50 V
C387	QCS31HJ-220	C Cap	22 P
C388	QETC1EM-107	E Cap	100 25 V
C389	QETC1EM-107	E Cap	100 25 V
C390	QCS31HJ-220	C Cap	22 P
C392	QETC1HM-106	E Cap	10 50 V
C393	QETC1EM-107	E Cap	100 25 V

Symbol No.	Part No.	Part Name	Description
C394	QCS31HJ-220	C Cap	22 P
C395	QETC1HM-106	E Cap	10 50 V
C396	QEC61HM-105	E Cap	1
C397	QETC1HM-106	E Cap	10 50 V
C398	QETC1EM-107	E Cap	100 25 V
C399	QETC1HM-106	E Cap	10 50 V
C400	QFN31HJ-104	MY Cap	0.1 50 V
C401	QETC1EM-107	E Cap	100 25 V
C402	QETC1EM-107	E Cap	100 25 V
C403	QETC1EM-107	E Cap	100 25 V
C404	QETC1EM-107	E Cap	100 25 V
C405	QETC1EM-107	E Cap	100 25 V
C406	QETC1EM-107	E Cap	100 25 V
C407	QETC1EM-476	E Cap	47 25 V
C412	QFN31HJ-103	MY Cap	0.01 50 V
C413	QETC1EM-107	E Cap	100 25 V
C414	QETC1EM-107	E Cap	100 25 V
C415	QFN31HJ-123	MY Cap	0.012 50 V
C416	QETC1EM-107	E Cap	100 25 V
R301	QRD161J-104	CR	100 K 1/6 W
R302	QRD161J-104	CR	100 K 1/6 W
R303	QRD161J-102	CR	1 K 1/6 W
R304	QRD161J-104	CR	100 K 1/6 W
R305	QRD161J-394	CR	390 K 1/6 W
R306	QRD161J-333	CR	33 K 1/6 W
R307	QRD161J-101	CR	100 1/6 W
R308	QRD161J-393	CR	39 K 1/6 W
R309	QRD161J-104	CR	100 K 1/6 W
R310	QRD161J-272	CR	2.7 K 1/6 W
R312	QRD161J-104	CR	100 K 1/6 W
R313	QRD161J-331	CR	330 1/6 W
R314	QRD161J-103	CR	10 K 1/6 W
R315	QRD161J-103	CR	10 K 1/6 W
R316	QRD161J-103	CR	10 K 1/6 W
R317	QRD161J-103	CR	10 K 1/6 W
R319	QRD161J-104	CR	100 K 1/6 W
R320	QRD161J-104	CR	100 K 1/6 W
R321	QRD161J-123	CR	12 K 1/6 W
R322	QRD161J-182	CR	1.8 K 1/6 W
R323	QRD161J-182	CR	1.8 K 1/6 W
R324	QVCB02W-S15	VR	100K EQ Low LEVEL
R325	QRD161J-182	CR	1.8 K 1/6 W
R326	QRD161J-182	CR	1.8 K 1/6 W
R327	QRD161J-123	CR	12 K 1/6 W
R328	QRD161J-123	CR	12 K 1/6 W
R329	QRD161J-105	CR	1 M 1/6 W
R330	QRD161J-101	CR	100 1/6 W
R331	QRD161J-104	CR	100 K 1/6 W
R332	QRD161J-104	CR	100 K 1/6 W
R333	QRD161J-103	CR	10 K 1/6 W
R334	QRD161J-332	CR	3.3 K 1/6 W
R335	QRD161J-332	CR	3.3 K 1/6 W
R336	QRD161J-682	CR	6.8 K 1/6 W
R337	QRD161J-103	CR	10 K 1/6 W
R338	QRD161J-103	CR	10 M 1/6 W
R339	QRD161J-153	CR	15 K 1/6 W
R340	QRD161J-153	CR	15 K 1/6 W

Symbol No.	Part No.	Part Name	Description
R341	QRD161J-223	CR	22 K 1/6 W
R342	QRD161J-104	CR	100 K 1/6 W
R343	QRD161J-101	CR	100 1/6 W
R345	QRD161J-104	CR	100 K 1/6 W
R346	QRD161J-104	CR	100 K 1/6 W
R347	QRD161J-102	CR	1 K 1/6 W
R348	QRD161J-394	CR	390 K 1/6 W
R349	QRD161J-333	CR	33 K 1/6 W
R350	QRD161J-104	CR	100 K 1/6 W
R351	QRD161J-101	CR	100 1/6 W
R353	QRD161J-393	CR	39 K 1/6 W
R354	QRD161J-104	CR	100 K 1/6 W
R355	QRD161J-272	CR	2.7 K 1/6 W
R357	QRD161J-332	CR	3.3 K 1/6 W
R358	QRD161J-104	CR	100 K 1/6 W
R359	QRD161J-331	CR	330 1/6 W
R360	QVCB02W-S15	VR	100K TRIM LEVEL
R361	QRD161J-332	CR	3.3 K 1/6 W
R362	QRD161J-103	CR	10 K 1/6 W
R363	QRD161J-103	CR	10 K 1/6 W
R364	QRD161J-103	CR	10 K 1/6 W
R366	QRD161J-104	CR	100 K 1/6 W
R368	QRD161J-103	CR	10 K 1/6 W
R369	QRD161J-103	CR	10 K 1/6 W
R370	QRD161J-104	CR	100 K 1/6 W
R371	QRD161J-104	CR	100 K 1/6 W
R372	QRD161J-103	CR	10 K 1/6 W
R373	QRD161J-101	CR	100 1/6 W
R374	QRD161J-104	CR	100 K 1/6 W
R375	QRD161J-123	CR	12 K 1/6 W
R376	QVCB02W-S15	VR	100K EQ High LEVEL
R377	QRD161J-104	CR	100 K 1/6 W
R378	QRD161J-123	CR	12 K 1/6 W
R379	QRD161J-182	CR	1.8 K 1/6 W
R380	QRD161J-182	CR	1.8 K 1/6 W
R381	QRD161J-182	CR	1.8 K 1/6 W
R382	QRD161J-182	CR	1.8 K 1/6 W
R384	QRD161J-105	CR	1 M 1/6 W
R385	QRD161J-123	CR	12 K 1/6 W
R386	QRD161J-104	CR	100 K 1/6 W
R387	QRD161J-101	CR	100 1/6 W
R389	QRD161J-104	CR	100 K 1/6 W
R390	QRD161J-473	CR	47 K 1/6 W
R391	QRD161J-473	CR	47 K 1/6 W
R392	QRD161J-101	CR	100 1/6 W
R393	QRD161J-473	CR	47 K 1/6 W
R394	QRD161J-103	CR	10 K 1/6 W
R395	QRD161J-103	CR	10 K 1/6 W
R396	QRD161J-101	CR	100 1/6 W
R397	QRD161J-103	CR	10 K 1/6 W
R398	QRD161J-332	CR	3.3 K 1/6 W
R401	QRD161J-682	CR	6.8 K 1/6 W
R402	QRD161J-332	CR	3.3 K 1/6 W
R403	QRD161J-103	CR	10 K 1/6 W
R404	QRD161J-103	CR	10 K 1/6 W
R405	QRD161J-153	CR	15 K 1/6 W
R406	QRD161J-153	CR	15 K 1/6 W
R407	QRD161J-101	CR	100 1/6 W
R408	QRD161J-104	CR	100 K 1/6 W

Symbol No.	Part No.	Part Name	Description
R409	QRD161J-153	CR	15 K 1/6 W
R410	QRD161J-153	CR	15 K 1/6 W
R411	QRD161J-153	CR	15 K 1/6 W
R412	QRD161J-104	CR	100 K 1/6 W
R413	QRD161J-104	CR	100 K 1/6 W
R417	QVCA01A-S14	VR	10K AUX 2 LEVEL
R418	QRD161J-104	CR	100 K 1/6 W
R419	QRD161J-103	CR	10 K 1/6 W
R420	QRD161J-103	CR	10 K 1/6 W
R421	QVCB04M-S14	VR	10 K BALANCE
R422	QRD161J-101	CR	100 1/6 W
R423	QRD161J-104	CR	100 K 1/6 W
R424	QRD161J-103	CR	10 K 1/6 W
R425	QRD161J-103	CR	10 K 1/6 W
R426	QRD161J-103	CR	10 K 1/6 W
R429	QRD161J-101	CR	100 1/6 W
R430	QVCA01A-S14	VR	10K AUX 1 LEVEL
R431	QRD161J-104	CR	100 K 1/6 W
R432	QRD161J-103	CR	10 K 1/6 W
R433	QRD161J-103	CR	10 K 1/6 W
R434	QRD161J-104	CR	100 K 1/6 W
R435	QRD161J-101	CR	100 1/6 W
R436	QRD161J-101	CR	100 1/6 W
R437	QRD161J-153	CR	15 K 1/6 W
R438	QRD161J-104	CR	100 K 1/6 W
R439	QRD161J-105	CR	1 M 1/6 W
R440	QRD161J-101	CR	100 1/6 W
R441	QRD161J-153	CR	15 K 1/6 W
R442	QRD161J-104	CR	100 K 1/6 W
R443	QRD161J-473	CR	47 K 1/6 W
~~R444~~	~~QRD161J-473~~	~~CR~~	~~47 K 1/6 W~~
R445	QRD161J-470	CR	47 1/6 W
R446	QRD161J-102	CR	1 K 1/6 W
R447	QRD161J-102	CR	1 K 1/6 W
R448	QRD161J-473	CR	47 K 1/6 W
R449	QRD161J-473	CR	47 K 1/6 W
R450	QRD161J-223	CR	22 K 1/6 W
R451	QRD161J-104	CR	100 K 1/6 W
R452	QRD161J-271	CR	270 1/6 W
R453	QRD161J-223	CR	22 K 1/6 W
R454	QRD161J-394	CR	390 K 1/6 W
R455	QRD161J-223	CR	22 K 1/6 W
R456	QRD161J-150	UNFR	15 1/4 W
R457	QRD161J-150	UNFR	15 1/4 W
R458	QRD161J-150	UNFR	15 1/4 W
R463	QRD161J-153	CR	15 K 1/6 W
R464	QRD161J-153	CR	15 K 1/6 W
R465	QRD161J-153	CR	15 K 1/6 W
R466	QRD161J-153	CR	15 K 1/6 W
R467	QRD161J-105	CR	1 M 1/6 W
R470	QRD161J-123	CR	12 K 1/6 W
R472	QRD161J-123	CR	12 K 1/6 W
R473	QRD161J-104	CR	100 K 1/6 W
R474	QRD161J-104	CR	100 K 1/6 W
R475	QRD161J-104	CR	100 K 1/6 W
R476	QRD161J-103	CR	10 K 1/6 W
R477	QRD161J-472	CR	4.7 K 1/6 W

Symbol No.	Part No.	Part Name	Description
RY301	G5A237-DC12	RELAY	
S301	QSR2B23-S01	ROTARY Switch	INPUT SELECT
S302	QST3141-S02	P. Switch	STEREO/MONO SELECT
S303	QST3141-S02	P. Switch	PHASE
S304	QST3141-S02	P. Switch	EQ
S305	QST3141-S02	P. Switch	AUD
S306	QST3141-S02	P. Switch	TAPE RETURN L
S307	QST3141-S03	P. Switch	PGM
S308	QST3141-S02	P. Switch	TAPE RETURN R
CN1	SS30662-008	Connector	8-pin
CN2	SS30662-008	Connector	8-pin
CN11	SCV1228-005	Connector	5-pin
CN21	SCV1228-008	Connector	8-pin
FJ301	SS43181-035	Flexible Jumper	
FJ302	SS43181-054	Flexible Jumper	

6.3 MONITOR board assembly

0 3 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC701	NJM4560DD	IC	JRC
IC702	NJM4560DD	IC	JRC
IC703	NJM4560DD	IC	JRC
IC704	NJM4560DD	IC	JRC
IC705	NJM4560DD	IC	JRC
IC706	NJM4560DD	IC	JRC
IC707	NJM4560DD	IC	JRC
IC708	NJM4560DD	IC	JRC
IC709	NJM4560DD	IC	JRC
Q701	2SA564(R)	Transistor	MATSUSHITA
Q702	2SA564(R)	Transistor	MATSUSHITA
Q703	2SA564(R)	Transistor	MATSUSHITA
Q704	2SK163(M.N)	FET	NEC
Q705	2SK163(M.N)	FET	NEC
Q706	2SK163(M.N)	FET	NEC
Q707	2SK163(M.N)	FET	NEC
D701	MA165	Diode	MATSUSHITA
D702	MA165	Diode	MATSUSHITA
D703	MA165	Diode	MATSUSHITA
D704	MA165	Diode	MATSUSHITA
D705	MA165	Diode	MATSUSHITA
D706	SLR-54GG5	LED	GREEN
D707	MA165	Diode	MATSUSHITA
C701	QETC1EM-226	E Cap	22 25 V
C702	QCS31HJ-220	C Cap	22 P
C703	QETC1HM-106	E Cap	10 50 V
C704	QETC1EM-226	E Cap	22 25 V
C705	QCS31HJ-220	C Cap	22 P
C706	QCS31HJ-101	C Cap	100 P
C707	QETC1HM-106	E Cap	10 50 V
C708	QETC1EM-107	E Cap	100 50 V
C709	QETC1EM-107	E Cap	100 50 V
C710	QCS31HJ-220	C Cap	22 P
C711	QETC1EM-107	E Cap	100 25 V
C712	QETC1EM-107	E Cap	100 25 V
C713	QETC1HM-106	E Cap	10 50 V
C714	QCS31HJ-220	C Cap	22 P
C715	QETC1HM-106	E Cap	10 50 V
C716	QETC1HM-106	E Cap	10 50 V
C717	QETC1HM-106	E Cap	10 50 V
C718	QETC1HM-106	E Cap	10 50 V
C719	QETC1HM-106	E Cap	10 50 V
C720	QETC1EM-476	E Cap	47 25 V
C721	QETC1EM-476	E Cap	47 25 V
C722	QFN31HJ-104	MY Cap	0.1 50 V
C723	QETC1EM-476	E Cap	47 25 V
C724	QCS31HJ-220	C Cap	22 P
C725	QETC1EM-107	E Cap	100 25 V

Symbol No.	Part No.	Part Name	Description
C726	QCS31HJ-220	C Cap	22 P
C727	QFN31HJ-104	MY Cap	0.1 50 V
C728	QETC1EM-107	E Cap	100 25 V
C729	QETC1HM-106	E Cap	10 50 V
C730	QETC1EM-107	E Cap	100 25 V
C731	QCS31HJ-220	C Cap	22 P
C732	QETC1EM-107	E Cap	100 25 V
C733	QETC1EM-107	E Cap	100 25 V
C734	QETC1HM-106	E Cap	10 50 V
C735	QETC1HM-106	E Cap	10 50 V
C736	QCS31HJ-220	C Cap	22 P
C737	QETC1HM-106	E Cap	10 50 V
C738	QETC1EM-107	E Cap	100 25 V
C739	QETC1HM-106	E Cap	10 50 V
C740	QETC1HM-106	E Cap	10 50 V
C741	QCS31HJ-220	C Cap	22 P
C742	QETC1HM-106	E Cap	10 50 V
C743	QETC1EM-107	E Cap	100 25 V
C744	QETC1HM-106	E Cap	10 50 V
C745	QETC1HM-106	E Cap	10 50 V
C746	QETC1HM-106	E Cap	10 50 V
C747	QETC1HM-106	E Cap	10 50 V
C748	QETC1HM-106	E Cap	10 50 V
C749	QCS31HJ-220	C Cap	22 P
C750	QETC1EM-107	E Cap	100 25 V
C751	QETC1CM-226	E Cap	22 16 V
C752	QCS31HJ-220	C Cap	22 P
C753	QETC1EM-107	E Cap	100 25 V
C754	QCS31HJ-101	C Cap	100 P
C755	QETC1CM-226	E Cap	22 16 V
C756	QCS31HJ-220	C Cap	22 P
C757	QFN31HJ-104	MY Cap	0.1 50 V
C758	QETC1EM-107	E Cap	100 25 V
R701	QRD161J-104	CR	100 K 1/6 W
R702	QRD161J-104	CR	100 K 1/6 W
R703	QRD161J-101	CR	100 1/6 W
R704	QRD161J-103	CR	10 K 1/6 W
R705	QRD161J-101	CR	100 1/6 W
R706	QRD14CJ-150	UNFR	15 1/4 W
R707	QRD14CJ-150	UNFR	15 1/4 W
R708	QRD161J-222	CR	2.2 K 1/6 W
R709	QRD161J-101	CR	100 1/6 W
R710	QRD161J-103	CR	10 K 1/6 W
R711	QRD161J-103	CR	10 K 1/6 W
R712	QRD161J-104	CR	100 K 1/6 W
R713	QRD161J-472	CR	4.7 K 1/6 W
R714	QRD161J-222	CR	2.2 K 1/6 W
R715	QRD161J-101	CR	100 1/6 W
R716	QRD161J-103	CR	10 K 1/6 W
R717	QRD161J-103	CR	10 K 1/6 W
R718	QRD161J-104	CR	100 K 1/6 W
R719	QRD161J-472	CR	4.7 K 1/6 W
R720	QVCB01A-S14	VR	
R721	QRD161J-101	CR	100 1/6 W
R722	QRD161J-101	CR	100 1/6 W
R723	QRD161J-104	CR	100 K 1/6 W

Symbol No.	Part No.	Part Name	Description
R724	QRD161J-104	CR	100 K 1/6 W
R725	QRD161J-474	CR	470 K 1/6 W
R726	QRD161J-474	CR	470 K 1/6 W
R727	QRD161J-103	CR	10 K 1/6 W
R728	QRD161J-102	CR	1 K 1/6 W
R729	QRD161J-105	CR	1 M 1/6 W
R730	QRD161J-103	CR	10 K 1/6 W
R731	QRD161J-102	CR	1 K 1/6 W
R732	QRD161J-105	CR	1 M 1/6 W
R733	QRD161J-104	CR	100 K 1/6 W
R734	QRD161J-104	CR	100 K 1/6 W
R735	QRD161J-104	CR	100 K 1/6 W
R736	QRD161J-473	CR	47 K 1/6 W
R737	QRD161J-104	CR	100 K 1/6 W
R738	QRD161J-105	CR	1 M 1/6 W
R739	QRD161J-105	CR	1 M 1/6 W
R740	QRD161J-105	CR	1 M 1/6 W
R741	QRD161J-101	CR	100 1/6 W
R742	QRD161J-153	CR	15 K 1/6 W
R743	QRD161J-105	CR	1 M 1/6 W
R744	QRD161J-473	CR	47 K 1/6 W
R745	QRD161J-473	CR	47 K 1/6 W
R746	QRD161J-100	CR	10 1/6 W
R747	QRD161J-105	CR	1 M 1/6 W
R748	QRD161J-105	CR	1 M 1/6 W
R749	QRD161J-150	UNFR	15 1/4 W
R750	QRD161J-472	CR	4.7 K 1/6 W
R751	QRD161J-472	CR	4.7 K 1/6 W
R752	QVPB614-104	VR	100 K PGM L
R753	QRD161J-104	CR	100 K 1/6 W
R755	QRD161J-103	CR	10 K 1/6 W
R756	QRD161J-150	UNFR	15 1/4 W
R757	QRD161J-150	UNFR	15 1/4 W
R758	QRD161J-473	CR	47 K 1/6 W
R759	QRD161J-103	CR	10 K 1/6 W
R760	QVPB614-104	VR	100 K PGM R
R761	QRD161J-104	CR	100 K 1/6 W
R763	QRD161J-103	CR	10 K 1/6 W
R764	QRD161J-103	CR	10 K 1/6 W
R765	QRD161J-102	CR	1 K 1/6 W
R766	QRD161J-473	CR	47 K 1/6 W
R767	QRD161J-102	CR	1 K 1/6 W
R769	QRD161J-103	CR	10 K 1/6 W
R770	QRD161J-103	CR	10 K 1/6 W
R771	QRD161J-473	CR	47 K 1/6 W
R772	QRD161J-102	CR	1 K 1/6 W
R773	QRD161J-473	CR	47 K 1/6 W
R774	QRD161J-102	CR	1 K 1/6 W
R775	QRD161J-103	CR	10 K 1/6 W
R777	QRD161J-103	CR	10 K 1/6 W
R778	QRD161J-182	CR	1.8 K 1/6 W
R779	QRD161J-182	CR	1.8 K 1/6 W
R780	QRD161J-182	CR	1.8 K 1/6 W
R781	QRD161J-182	CR	1.8 K 1/6 W
R782	QRD161J-182	CR	1.8 K 1/6 W
R783	QRD161J-182	CR	1.8 K 1/6 W
R784	QRD161J-182	CR	1.8 K 1/6 W
R785	QRD161J-182	CR	1.8 K 1/6 W
R786	QRD161J-103	CR	10 K 1/6 W

Symbol No.	Part No.	Part Name	Description
R787	QRD161J-153	CR	15 K 1/6 W
R788	QRD161J-153	CR	15 K 1/6 W
R789	QRD161J-154	CR	150 K 1/6 W
R790	QRD161J-154	CR	150 K 1/6 W
R791	QRD161J-153	CR	15 K 1/6 W
R792	QVCB01A-S14	VR	10 K RET L
R793	QRD161J-104	CR	100 K 1/6 W
R794	QRD161J-104	CR	100 K 1/6 W
R795	QRD161J-393	CR	39 K 1/6 W
R796	QRD161J-393	CR	39 K 1/6 W
R797	QRD161J-104	CR	100 K 1/6 W
R798	QVPB614-104	VR	100K MONITOR L
R799	QVPB614-104	VR	100K MONITOR R
S701	QSR2B23-S02	ROTARY Switch	MONITOR SELECT
S702	QSR2B22-S01	ROTARY Switch	RETURN
RY701	G5A237-DC12	RELAY	
RY702	G5A237-DC12	RELAY	
AN701	SS32865-004	Dip Socket	
AN702	SS32865-009	Dip Socket	
AN703	SS32865-004	Dip Socket	
CN1	SS30662-008	Connector	8 P
CN2	SS30662-008	Connector	8 P
CN4	SCV1227-009	Connector	9 P
CN12	SS30662-008	Connector	8 P
CN13	SCV1227-007	Connector	7 P
CN22	SCV1228-004	Connector	4 P
CN23	SCV1227-004	Connector	4 P
CN30	SCV1227-006	Connector	6 P
CN701	SSV0657-004	Jumper Socket	4 P
CN702	SSV0657-009	Jumper Socket	9 P
CN703	SSV0657-004	Jumper Socket	4 P
	SSV0778	Terminal	

6.4 MASTER R board assembly

04☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description	
IC601	AN6558	IC	MATSUSHITA	
IC602	NJM4560DD	IC	JRC	
IC603	NJM4560DD	IC	JRC	
IC604	NJM4560DD	IC	JRC	
IC605	NJM4560DD	IC	JRC	
IC606	NJM4560DD	IC	JRC	
IC607	NJM4560DD	IC	JRC	
Q601	2SK163(M.N)	FET	NEC	
Q602	2SK163(M.N)	FET	NEC	
D601	HZS6.8JB2	Zener Diode	HITACHI	
D601	HZS6.8JB2	Zener Diode	HITACHI	
D601	HZS6.8JB2	Zener Diode	HITACHI	
D601	HZS6.8JB2	Zener Diode	HITACHI	
C602	QCS31HJ-101	C Cap	100 P	
C603	QCS31HJ-101	C Cap	100 P	
C604	QER60JM-107	E Cap	100	25 V
C605	QER60JM-107	E Cap	100	25 V
C606	QCS31HJ-101	C Cap	100 P	
C607	QCS31HJ-101	C Cap	100 P	
C608	QER61EM-106	E Cap	10	25 V
C609	QER60JM-107	E Cap	100	25 V
C610	QCS31HJ-101	C Cap	100 P	
C611	QER60JM-107	E Cap	100	25 V
C612	QCS31HJ-101	C Cap	100 P	
C613	QER61EM-106	E Cap	10	25 V
C614	QER61EM-106	E Cap	10	25 V
C615	QCS31HJ-101	C Cap	100 P	
C616	QER61EM-106	E Cap	10	25 V
C618	QER61CM-476	E Cap	47	25 V
C619	QCS31HJ-101	C Cap	100 P	
C621	QETC1EM-107	E Cap	10	25 V
C622	QCS31HJ-391	C Cap	390 P	
C623	QFN31HJ-222	MY Cap	0.0022	50 V
C624	QCS31HJ-391	C Cap	390 P	
C625	QFN31HJ-222	MY Cap	0.0022	50 V
C626	QCS31HJ-391	C Cap	390 P	
C627	QFN31HJ-222	MY Cap	0.0022	50 V
C628	QETC1HM-105	E Cap	1.0	50 V
C629	QCS31HJ-121	C Cap	120 P	
C630	QCS31HJ-180	C Cap	18 P	
C631	QCS31HJ-121	C Cap	120 P	
C632	QCS31HJ-180	C Cap	18 P	
C633	QCS31HJ-121	C Cap	120 P	
C634	QCS31HJ-180	C Cap	18 P	
C635	QETC1HM-105	E Cap	1.0	50 V
C639	QCS31HJ-101	C Cap	100 P	
C640	QER61EM-106	E Cap	1.0	25 V

Symbol No.	Part No.	Part Name	Description	
C641	QCS31HJ-101	C Cap	100 P	
C642	QER61EM-106	E Cap	220	25 V
C643	QETC1EM-476	E Cap	47	25 V
C644	QCS31HJ-101	C Cap	100 P	
C646	QETC1EM-106	E Cap	10	25 V
C648	QETC1EM-107	E Cap	100	25 V
C649	QETC1EM-107	E Cap	100	25 V
C650	QCS31HJ-331	C Cap	330 P	
C651	QCS31HJ-331	C Cap	330 P	
C652	QER61EM-106	E Cap	10	25 V
C653	QER61EM-106	E Cap	10	25 V
C654	QCS31HJ-101	C Cap	100 P	
C655	QCS31HJ-101	C Cap	100 P	
C656	QER61CM-476	E Cap	47	16 V
C657	QETC1EM-476	E Cap	47	25 V
C658	QCS31HJ-101	C Cap	100 P	
C659	QER60JM-107	E Cap	100	25 V
C660	QETC1HM-106	E Cap	10	50 V
C661	QETC1HM-106	E Cap	10	50 V
R601	QRD161J-104	CR	100 K	1/6 W
R602	QRD161J-104	CR	100 K	1/6 W
R603	QRD161J-223	CR	22 K	1/6 W
R605	QRD161J-103	CR	10 K	1/6 W
R606	QRD161J-103	CR	10 K	1/6 W
R607	QRD161J-332	CR	3.3 K	1/6 W
R608	QRD161J-332	CR	3.3 K	1/6 W
R609	QRD161J-103	CR	10 K	1/6 W
R610	QRD161J-103	CR	10 K	1/6 W
R611	QRD161J-103	CR	10 K	1/6 W
R612	QRD14CJ-101	CR	100	1/6 W
R613	QRD161J-103	CR	10 K	1/6 W
R614	QRD161J-562	CR	5.6 K	1/6 W
R615	QRD161J-103	CR	10 K	1/6 W
R616	QRD14CJ-101	CR	100	1/6 W
R617	QRD161J-103	CR	10 K	1/6 W
R618	QRD161J-103	CR	10 K	1/6 W
R619	QRD161J-562	CR	5.6 K	1/6 W
R620	QRD161J-104	CR	100 K	1/6 W
R621	QRD161J-104	CR	100 K	1/6 W
R622	QRD161J-104	CR	100 K	1/6 W
R623	QRD161J-101	CR	100	1/6 W
R624	QRD161J-332	CR	3.3 K	1/6 W
R625	QRD161J-332	CR	3.3 K	1/6 W
R626	QRD161J-104	CR	100 K	1/6 W
R627	QRD161J-103	CR	10 K	1/6 W
R628	QRD161J-183	CR	18 K	1/6 W
R629	QRD161J-104	CR	100 K	1/6 W
R631	QRD161J-101	CR	100	1/6 W
R632	QRD161J-104	CR	100 K	1/6 W
R633	QRD161J-153	CR	15 K	1/6 W
R636	QRD161J-154	CR	150 K	1/6 W
R637	QRD161J-154	CR	150 K	1/6 W
R638	QRD161J-153	CR	15 K	1/6 W
R639	QRD161J-154	CR	150 K	1/6 W
R641	QRD161J-102	CR	1 K	1/6 W
R642	QRD161J-102	CR	1 K	1/6 W
R643	QRD161J-154	CR	150 K	1/6 W

Symbol No.	Part No.	Part Name	Description
R644	QRD161J-154	CR	150 K 1/6 W
R645	QRD161J-153	CR	15 K 1/6 W
R646	QRD161J-154	CR	150 K 1/6 W
R648	QRD161J-102	CR	1 K 1/6 W
R649	QRD161J-821	CR	820 1/6 W
R654	QVCA05W-S15	VR	100 K OSC LEVEL
R655	QRD161J-105	CR	1 M 1/6 W
R656	QRD161J-472	CR	4.7 K 1/6 W
R657	QRD161J-104	CR	100 K 1/6 W
R658	QRD161J-393	CR	39 K 1/6 W
R659	QRD161J-393	CR	39 K 1/6 W
R662	QRD161J-153	CR	15 K 1/6 W
R663	QVCB04M-S14	VR	10 K AUX 2
R664	QRD161J-153	CR	15 K 1/6 W
R665	QRD161J-103	CR	10 K 1/6 W
R666	QRD161J-104	CR	100 K 1/6 W
R667	QRD161J-222	CR	2.2 K 1/6 W
R668	QVCA01W-S14	VR	10K AUX IN LEVEL
R669	QRD161J-101	CR	100 1/6 W
R670	QRD14CJ-150	CR	15 1/4 W
R671	QRD14CJ-150	CR	15 1/4 W
R672	QRD161J-153	CR	15 K 1/6 W
R673	QRD161J-104	CR	100 K 1/6 W
R675	QRD161J-333	CR	33 K 1/6 W
R676	QRD161J-223	CR	22 K 1/6 W
R677	QRD161J-104	CR	100 K 1/6 W
R678	QRD161J-103	CR	10 K 1/6 W
R679	QRD161J-103	CR	10 K 1/6 W
R680	QRD161J-822	CR	8.2 K 1/6 W
R681	QRD161J-822	CR	8.2 K 1/6 W
R682	QRD161J-103	CR	10 K 1/6 W
R683	QRD161J-103	CR	10 K 1/6 W
R684	QRD161J-332	CR	3.3 K 1/6 W
R685	QRD161J-103	CR	10 K 1/6 W
R686	QRD161J-103	CR	10 K 1/6 W
R687	QRD161J-103	CR	10 K 1/6 W
S601	QSR2B43-S01	Rotary Switch	OSC
S602	SSV0953-020	Dip Switch	MASTER R OUT LEVEL
CN1	SS30662-008	Connector	8-pin
CN2	SS30662-008	Connector	8-pin
CN6	SCV1227-012	Connector	12-pin
CN9	SCV1227-003	Connector	3-pin
CN12	SS30662-008	Connector	8-pin
CN19	SCV1228-003	Connector	3-pin

6.5 MASTER L board assembly

05☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC501	AN6558	IC	MATSUSHITA
IC502	NJM4560DD	IC	JRC
IC503	NJM4560DD	IC	JRC
IC504	NJM4560DD	IC	JRC
IC505	NJM4560DD	IC	JRC
IC506	NJM4560DD	IC	JRC
IC507	NJM4560DD	IC	JRC
Q501	2SK163(M.N)	FET	NEC
Q502	2SK163(M.N)	FET	NEC
Q503	2SK163(M.N)	FET	NEC
Q504	2SK163(M.N)	FET	NEC
Q505	2SK163(M.N)	FET	NEC
Q506	2SK163(M.N)	FET	NEC
Q507	2SKA564(R)	Transister	MATSUSHITA
D501	MA165	Diode	MATSUSHITA
RY501	G5A237-DC12	RELAY	
C502	QCS31HJ-101	C Cap	100 P
C503	QCS31HJ-101	C Cap	100 P
C504	QER60JM-107	E Cap	100 25 V
C505	QER60JM-107	E Cap	100 25 V
C506	QCS31HJ-101	C Cap	100 P
C507	QCS31HJ-101	C Cap	100 P
C508	QER61CM-476	E Cap	47 16 V
C509	QER60JM-107	E Cap	100 25 V
C510	QCS31HJ-101	C Cap	100 P
C511	QER60JM-107	E Cap	100 25 V
C512	QCS31HJ-101	C Cap	100 P
C513	QER61EM-106	E Cap	22 25 V
C514	QER61EM-106	E Cap	22 25 V
C515	QCS31HJ-101	C Cap	100 P
C516	QER61EM-106	E Cap	22 25 V
C518	QER61CM-476	E Cap	47 16 V
C519	QCS31HJ-101	C Cap	100 P
C521	QER60JM-107	E Cap	100 25 V
C522	QETC1EM-476	E Cap	47 25 V
C523	QCS31HJ-220	C Cap	22 P
C524	QETC1EM-226	E Cap	22 25 V
C525	QETC1EM-226	E Cap	22 25 V
C526	QER61CM-476	E Cap	47 16 V
C527	QCS31HJ-101	C Cap	100 P
C528	QER60JM-107	E Cap	100 25 V
C529	QFN31HJ-104	MY Cap	0.1 50 V
C530	QETC1EM-476	E Cap	47 25 V
C531	QCS31HJ-220	C Cap	22 P
C532	QETC1EM-106	E Cap	10 25 V
C533	QETC1EM-106	E Cap	10 25 V
C534	QETC1EM-476	E Cap	47 25 V
C535	QCS31HJ-220	C Cap	22 P

Symbol No.	Part No.	Part Name	Description	
C536	QETC1EM-107	E Cap	100	25 V
C537	QER61CM-476	E Cap	47	16 V
C538	QCS31HJ-101	C Cap	100 P	
C539	QER60JM-107	E Cap	100	25 V
C540	QETC1EM-476	E Cap	47	25 V
C541	QCS31HJ-101	C Cap	100 P	
C542	QETC1EM-106	E Cap	10	50 V
C543	QETC1EM-476	E Cap	47	25 V
C544	QETC1EM-107	E Cap	100	25 V
C545	QETC1EM-107	E Cap	100	25 V
C546	QCS31HJ-331	C Cap	330 P	
C547	QCS31HJ-331	C Cap	330 P	
C548	QER61EM-106	E Cap	10	25 V
C549	QER61EM-106	E Cap	10	25 V
C550	QCS31HJ-101	C Cap	100 P	
C551	QCS31HJ-101	C Cap	100 P	
C552	QETC1EM-476	E Cap	47	25 V
C553	QCS31HJ-101	C Cap	100 P	
C554	QER61EM-106	E Cap	10 P	25 V
R501	QRD161J-104	CR	100 K	1/6 W
R502	QRD161J-104	CR	100 K	1/6 W
R503	QRD161J-223	CR	22 K	1/6 W
R505	QRD161J-103	CR	10 K	1/6 W
R506	QRD161J-103	CR	10 K	1/6 W
R507	QRD161J-332	CR	3.3 K	1/6 W
R508	QRD161J-332	CR	3.3 K	1/6 W
R509	QRD161J-103	CR	10 K	1/6 W
R510	QRD161J-103	CR	10 K	1/6 W
R511	QRD161J-103	CR	10 K	1/6 W
R512	QRD14CJ-101	CR	100	1/4 W
R513	QRD161J-103	CR	10 K	1/6 W
R514	QRD161J-562	CR	5.6 K	1/6 W
R515	QRD161J-103	CR	10 K	1/6 W
R516	QRD14CJ-101	CR	100	1/4 W
R517	QRD161J-103	CR	10 K	1/4 W
R518	QRD161J-183	CR	8 K	1/6 W
R519	QRD161J-562	CR	5.6 K	1/6 W
R520	QRD161J-104	CR	100 K	1/6 W
R521	QRD161J-104	CR	100 K	1/6 W
R522	QRD161J-104	CR	100 K	1/6 W
R523	QRD161J-101	CR	100	1/6 W
R524	QRD161J-332	CR	3.3 K	1/6 W
R525	QRD161J-332	CR	3.3 K	1/6 W
R526	QRD161J-104	CR	100 K	1/6 W
R527	QRD161J-103	CR	10 K	1/6 W
R528	QRD161J-104	CR	100 K	1/6 W
R529	QRD161J-104	CR	100 K	1/6 W
R531	QRD161J-101	CR	100	1/6 W
R532	QRD161J-103	CR	10 K	1/6 W
R533	QRD161J-153	CR	15 K	1/6 W
R537	QRD161J-153	CR	15 K	1/6 W
R538	QRD161J-101	CR	100	1/6 W
R539	QRD161J-103	CR	10 K	1/6 W
R540	QRD161J-273	CR	27 K	1/6 W

Symbol No.	Part No.	Part Name	Description	
R542	QRD161J-104	CR	100 K	1/6 W
R543	QRD161J-104	CR	100 K	1/6 W
R544	QRD161J-104	CR	100 K	1/6 W
R545	QRD161J-272	CR	2.7 K	1/6 W
R546	QRD161J-332	CR	3.3 K	1/6 W
R547	QRD161J-332	CR	3.3 K	1/6 W
R548	QVCA01A-S14	VR	10K AUX2 OUT LEVEL	
R549	QRD161J-101	CR	100	1/6 W
R550	QRD161J-103	CR	10 K	1/6 W
R551	QRD161J-153	CR	15 K	1/6 W
R553	QRD161J-100	CR	10	1/6 W
R554	QRD161J-103	CR	10 K	1/6 W
R555	QRD161J-103	CR	10 K	1/6 W
R556	QRD161J-103	CR	10 K	1/6 W
R557	QRD161J-273	CR	27 K	1/6 W
R558	QRD161J-272	CR	27 K	1/6 W
R559	QRD161J-332	CR	3.3 K	1/6 W
R560	QRD161J-332	CR	3.3 K	1/6 W
R561	QVCA01A-S14	VR	10K AUX1 OUT LEVEL	
R562	QRD161J-101	CR	100	1/6 W
R563	QRD161J-153	CR	15 K	1/6 W
R564	QRD161J-104	CR	100 K	1/6 W
R565	QRD161J-104	CR	100 K	1/6 W
R566	QRD161J-104	CR	100 K	1/6 W
R567	QRD161J-103	CR	10 K	1/6 W
R568	QRD161J-101	CR	100	1/6 W
R569	QRD161J-153	CR	15 K	1/6 W
R570	QRD161J-104	CR	100 K	1/6 W
R571	QRD161J-101	CR	100	1/6 W
R572	QRD161J-153	CR	15 K	1/6 W
R573	QRD161J-153	CR	15 K	1/6 W
R574	QRD161J-153	CR	15 K	1/6 W
R575	QVCB04M-S14	VR	10 K	
R576	QRD161J-153	CR	15 K	1/6 W
R577	QRD161J-104	CR	100 K	1/6 W
R578	QRD161J-103	CR	10 K	1/6 W
R579	QRD161J-222	CR	2.2 K	1/6 W
R580	QVCA01A-S14	VR	10K AUX IN LEVEL	
R581	QRD161J-333	CR	33 K	1/6 W
R582	QRD14CJ-150	UNFR	15	1/4 W
R583	QRD14CJ-150	UNFR	15	1/4 W
R585	QRD161J-103	CR	10 K	1/6 W
R586	QRD161J-223	CR	22 K	1/6 W
R587	QRD161J-104	CR	100 K	1/6 W
R588	QRD161J-103	CR	10 K	1/6 W
R589	QRD161J-103	CR	10 K	1/6 W
R590	QRD161J-822	CR	8.2 K	1/6 W
R591	QRD161J-822	CR	8.2 K	1/6 W
R592	QRD161J-103	CR	10 K	1/6 W
R593	QRD161J-153	CR	15 K	1/6 W
R594	QRD161J-153	CR	15 K	1/6 W
R595	QRD161J-332	CR	3.3 K	1/6 W
R596	QRD161J-103	CR	10 K	1/6 W
R597	QRD161J-103	CR	10 K	1/6 W
R598	QRD161J-103	CR	10 K	1/6 W

Symbol No.	Part No.	Part Name	Description
S501	SSV0953-020	Dip Switch	MASTER L OUTPUT LEVEL
CN1	SS30662-008	Connector	8-pin
CN2	SS30662-008	Connector	8-pin
CN7	SCV1228-007	Connector	7-pin
CN8	SCV1228-008	Connector	8-pin
CN12	SS30662-008	Connector	8-pin
CN14	SCV1228-008	Connector	8-pin
CN18	SCV1228-003	Connector	3-pin

6.6 POWER SUPPLY board assembly 06☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC803	TA7317P	IC	TOSHIBA
IC804	UPC317H	IC	NEC
IC805	UPC337H	IC	NEC
IC806	TA78009AP	IC	TOSHIBA
IC901	NJM4560DD	IC	JRC
Q801	2SC1685(R.S)	Transistor	MATSUSHITA
Q802	2SA564(R)	Transistor	MATSUSHITA
Q803	2SA564(R)	Transistor	MATSUSHITA
Q804	2SC1685(R.S)	Transistor	MATSUSHITA
Q805	2SA970(BL)	Transistor	TOSHIBA
Q806	2SC2238(O.Y)	Transistor	TOSHIBA
Q807	2SC1685(R.S)	Transistor	MATSUSHITA
Q808	2SA564(R)	Transistor	MATSUSHITA
Q809	2SC1685(R.S)	Transistor	MATSUSHITA
D801	MA165	Diode	MATSUSHITA
D802	MA165	Diode	MATSUSHITA
D803	MA165	Diode	MATSUSHITA
D804	MA165	Diode	MATSUSHITA
D805	MA165	Diode	MATSUSHITA
D806	DS135D-KB1	Diode	SANYO
D807	DS135D-KB1	Diode	SANYO
D808	MA165	Diode	MATSUSHITA
D809	MA165	Diode	MATSUSHITA
D810	DS135D-KB1	Diode	SANYO
D811	DS135D-KB1	Diode	SANYO
D812	HZS16-2L	Zener Diode	HITACHI
D813	PB-151LF-A	Diode	
D814	PB-151LF-A	Diode	
D815	PB-151LF-A	Diode	
D816	MA165	Diode	MATSUSHITA
D817	MA165	Diode	MATSUSHITA
D818	MA165	Diode	MATSUSHITA
D901	MA165	Diode	MATSUSHITA
D902	MA165	Diode	MATSUSHITA
C828	QETC1HM-474	E Cap	0.47 50 V
C829	QFN31HJ-153	MY Cap	0.015 50 V
C830	QFN31HJ-222	MY Cap	0.0022 50 V
C831	QETC1HM-475	E Cap	4.7 50 V
C832	QETC1CM-107	E Cap	100 16 V
C834	QETC1CM-107	E Cap	100 16 V
C835	QETC1CM-107	E Cap	100 16 V
C836	QETB2AM-337	E Cap	330 100 V
C837	QETC1EM-476	E Cap	47 25 V
C838	QCS31HJ-101	C Cap	100 P
C839	QETC1JM-107	E Cap	100 63 V
C840	QCF31HP-103	C Cap	0.01
C841	QCF31HP-103	C Cap	0.01
C842	QETB1EM-478	E Cap	4700 25 V
C843	QETC1EM-107	E Cap	100 25 V

Symbol No.	Part No.	Part Name	Description	
C844	QCF31HP-103	C Cap	0.01	
C845	QCF31HP-103	C Cap	0.01	
C846	QEV71VR-688	E Cap	6800	35 V
C847	QEV71VR-688	E Cap	6800	35 V
C850	QETC1CM-107	E Cap	100	16 V
C851	QETC1CM-107	E Cap	100	16 V
C852	QETC1HM-105	E Cap	1	50 V
C853	QETC1HM-105	E Cap	1	50 V
C854	QETC1EM-107	E Cap	100	25 V
C855	QETC1EM-107	E Cap	100	25 V
C856	QFN31HJ-104	MY Cap	0.1	50 V
C857	QFN31HJ-104	MY Cap	0.1	50 V
C857	QFN31HJ-104	MY Cap	0.1	50 V
R826	QRD14CJ-150	UNFR	15	1/6 W
R827	QRD161J-103	CR	10 K	1/6 W
R828	QRD161J-333	CR	33 K	1/6 W
R829	QRD161J-103	CR	10 K	1/6 W
R830	QRD161J-103	CR	10 K	1/6 W
R831	QRD161J-103	CR	10 K	1/6 W
R832	QRD161J-563	CR	56 K	1/6 W
R833	QRD161J-333	CR	33 K	1/6 W
R834	QRD161J-103	CR	10 K	1/6 W
R835	QRD161J-104	CR	100 K	1/6 W
R836	QRD161J-683	CR	68 K	1/6 W
R837	QRD161J-0R0	CR	0	1/6 W
R838	QRD161J-472	CR	4.7 K	1/6 W
R839	QRD161J-124	CR	120 K	1/6 W
R840	QRD161J-822	CR	8.2 K	1/6 W
R841	QRD161J-103	CR	10 K	1/6 W
R842	QRD161J-222	CR	2.2 K	1/6 W
R843	QRD161J-103	CR	10 K	1/6 W
R844	QRD161J-103	CR	10 K	1/6 W
R845	QRD161J-122	CR	1.2 K	1/6 W
R846	QRD161J-332	CR	3.3 K	1/6 W
R847	QRD14CJ-561	UNFR	560	1/4 W
R848	QRD161J-823	CR	82 K	1/6 W
R849	QRD161J-122	CR	1.2 K	1/6 W
R850	QRD161J-273	CR	27 K	1/6 W
R851	QRD161J-153	CR	15 K	1/6 W
R852	QRD161J-153	CR	15 K	1/6 W
R853	QRD161J-104	CR	100 K	1/6 W
R856	QRD161J-392	CR	3.9 K	1/6 W
R857	QRD161J-392	CR	3.9 K	1/6 W
R858	QRD161J-563	CR	56 K	1/6 W
R859	QRD161J-563	CR	56 K	1/6 W
R860	QRD161J-221	CR	220	1/6 W
R861	QRD161J-221	CR	220	1/6 W
R862	QRD14CJ-102	UNFR	1 K	1/4 W
R863	QRD161J-332	CR	3.3 K	1/6 W
R864	QRD161J-332	CR	3.3 K	1 W
R865	QRD161J-332	CR	3.3 K	1/6 W
R866	QRD161J-332	CR	3.3 K	1/6 W
R867	QRD161J-103	CR	10 K	1/6 W
R868	QRD161J-103	CR	10 K	1/6 W
R869	QRD161J-123	CR	12 K	1/6 W

Symbol No.	Part No.	Part Name	Description
CN1	SS30644-008	Connector	8-pin
CN5	SCV1227-006	Connector	6-pin
CN10	SCV1227-004	Connector	4-pin
CN13	SCV1227-007	Connector	7-pin
CN16	SS30644-007	Connector	7-pin
CN20	SCV1228-003	Connector	3-pin

6.7 CONNECTOR A/B/C boards assembly 07☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
	CONNECTOR A board		
C74	QCF31HP-103	C Cap	0.01
C75	QCF31HP-103	C Cap	0.01
C76	QCF31HP-103	C Cap	0.01
C77	QCF31HP-103	C Cap	0.01
C78	QCF31HP-103	C Cap	0.01
C79	QCF31HP-103	C Cap	0.01
C80	QCF31HP-103	C Cap	0.01
C81	QCF31HP-103	C Cap	0.01
C82	QCF31HP-103	C Cap	0.01
C83	QCF31HP-103	C Cap	0.01
C84	QCF31HP-103	C Cap	0.01
CJ12	XLB-3-31PCVM01	Cannon Connector	
CJ13	XLB-3-31PCVM01	Cannon Connector	
CJ14	XLB-3-31PCVM01	Cannon Connector	
CJ15	XLB-3-31PCVM01	Cannon Connector	
CJ16	XLB-3-31PCVM01	Cannon Connector	
CJ17	XLB-3-31PCVM01	Cannon Connector	
CJ18	XLB-3-32PCVM01	Cannon Connector	
CN24	SCV1227-004	Connector	4 P
CN28	SCV1002-S25	Connector	D SUB 25 P
PJ1	T5858-FA	Pin Jack	
PJ2	T5858-FA	Pin Jack	
PJ3	T5858-FA	Pin Jack	
PJ4	T5858-FA	Pin Jack	
	CONNECTOR B board		
C71	QCF31HP-103	C Cap	0.01
C72	QCF31HP-103	C Cap	0.01
C73	QCF31HP-103	C Cap	0.01
CJ9	XLB-3-31PCVM01	Cannon Connector	
CJ10	XLB-3-31PCVM01	Cannon Connector	
CJ11	XLB-3-32PCVM01	Cannon Connector	
CN29	SSV1002-S09	Connector	D SUB 9 P
	CONNECTOR C board		
CJ	XLB-3-31PCVM01	Cannon Connector	
CJ	XLB-3-31PCVM01	Cannon Connector	
LC101	EXC-EMT271BT	Filter	
LC102	EXC-EMT271BT	Filter	
LC103	EXC-EMT271BT	Filter	
LC104	EXC-EMT271BT	Filter	

6.8 TALK BACK board assembly 08☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC901	NJM4560DD	IC	JRC
D901	MA165	Diode	MATSUSHITA
D902	MA165	Diode	MATSUSHITA
C901	QCS31HJ-101	C Cap	100 P
C902	QCS31HJ-101	C Cap	100 P
C903	QER61EM-106	E Cap	10 25 V
C904	QER61EM-106	E Cap	10 25 V
C905	QCS31HJ-220	C Cap	220 P
C906	QCS31HJ-101	C Cap	100 P
C907	QCS31HJ-220	C Cap	22 P
C908	QER61EM-106	E Cap	10 25 V
C909	QFN31HJ-823	MY Cap	0.082 50 V
C910	QER61EM-106	E Cap	10 25 V
C911	QCS31HJ-220	C Cap	22 P
C912	QER61EM-336	E Cap	33 25 V
C913	QFN31HJ-104	MY Cap	0.1 50 V
C914	QER61EM-336	E Cap	33 25 V
C915	QER61EM-336	E Cap	33 25 V
R901	QRD161J-223	CR	22 K 1/6 W
R902	QRD161J-223	CR	22 K 1/6 W
R903	QRD161J-223	CR	22 K 1/6 W
R904	QRD161J-223	CR	22 K 1/6 W
R905	QRD161J-333	CR	33 K 1/6 W
R906	QRD161J-331	CR	330 1/6 W
R907	QRD161J-331	CR	330 1/6 W
R908	QRD161J-333	CR	33 K 1/6 W
R909	QRD161J-101	CR	100 1/6 W
R910	QVCA01A-S14	VR	TALK BACK LEVEL
R911	QRD161J-104	CR	100 K 1/6 W
R912	QRD161J-473	CR	47 K 1/6 W
R913	QRD161J-562	CR	5.6 K 1/6 W
R914	QRD161J-104	CR	100 K 1/6 W
R915	QRD161J-101	CR	100 1/6 W
R916	QRD161J-103	CR	10 K 1/6 V
R917	QRD161J-104	CR	100 K 1/6 V
R918	QRD161J-104	CR	100 K 1/6 V
R919	QRD161J-104	CR	100 K 1/6 V
R920	QRD161J-103	CR	10 K 1/6 V
R921	QRD14CJ-150	CR	15
R922	QRD14CJ-150	CR	15
S901	QST3141-S02	P. Switch	MASTER
S902	QST3141-S02	P. Switch	AUX 1
S903	QST3141-S02	P. Switch	AUX 2
CN17	SCV1227-003	Connector	3 P
	SSV0778	Terminal	

6.9 H. PHONE board assembly 0 9 □□□□□□

Symbol No.	Part No.	Part Name	Description
IC802	BA5406	IC	ROHM
C813	QETC1CM-477	E Cap	470 16 V
C814	QETC1CM-477	E Cap	470 16 V
C815	QFN31HJ-224	MY Cap	0.22 56 V
C817	QETC1EM-476	E Cap	47 25 V
C818	QETC1EM-106	E Cap	10 50 V
C819	QETC1EM-107	E Cap	100 25 V
C820	QETC1EM-476	E Cap	47 25 V
C821	QETC1EM-106	E Cap	10 50 V
C822	QETC1EM-476	E Cap	47 25 V
C823	QFN31HJ-224	MY Cap	0.22 50 V
C825	QETC1HM-475	E Cap	4.7 50 V
C826	QETC1HM-475	E Cap	4.7 50 V
C827	QETC1HM-107	E Cap	100 25 V
C858	QCS31HJ-101	C Cap	100 P
C859	QCS31HJ-101	C Cap	100 P
C860	QCS31HJ-102	C Cap	0.001
R818	QRD161J-331	CR	330 1/6 W
R819	QRD161J-331	CR	330 1/6 W
R820	QRD14CJ-2R2	UNFR	
R821	QRD161J-102	CR	1 K 1/6 W
R822	QRD161J-102	CR	1 K 1/6 W
R823	QRD14CJ-2R2	UNFR	
R824	QRD161J-104	CR	100 1/6 W
R825	QRD161J-104	CR	100 1/6 W
R870	QVCB03A-S14	VR	10K HEADPHONE
R871	QRD161J-150	CR	15 1/6 W
R872	QRD161J-150	CR	15 1/6 W
R873	QRD161J-150	CR	15 1/6 W
R874	QRD161J-150	CR	15 1/6 W
PJ801	QMS6312-013	Jack Ass'y	

6.10 POWER LED board assembly 1 0 □□□□□□

Symbol No.	Part No.	Part Name	Description
LD801	SLR-54UR5	LED	Red
LD802	SLR-55GG5	LED	Green
	SS47065	LED Holder	
	SSV0778	Terminal	

6.11 LED METER board assembly 1 1 ☐☐☐☐☐☐

Symbol No.	Part No.	Part Name	Description
IC1	IR2E04	IC	SHARP
IC2	IR2E04	IC	SHARP
IC3	IR2E04	IC	SHARP
IC4	IR2E04	IC	SHARP
D1	HZS6.8JB2	Zener Diode	HITACHI
LD1	GL-106R12	LED	
LD2	GL-106G12	LED	
LD3	GL-106G12	LED	
LD4	GL-106R12	LED	
LD5	GL-106G12	LED	
LD6	GL-106G12	LED	
LD7	GL-106R12	LED	
LD8	GL-106G12	LED	
LD9	GL-106G12	LED	
LD10	GL-106R12	LED	
LD11	GL-106G12	LED	
LD12	GL-106G12	LED	
C1	QER61CM-476	E Cap	47 16 V
C2	QER61CM-476	E Cap	47 16 V
C3	QER61CM-476	E Cap	47 16 V
C6	QER61CM-476	E Cap	47 16 V
C11	QER61CM-476	E Cap	47 16 V
C12	QER61CM-476	E Cap	47 16 V
C17	QER61CM-476	E Cap	47 16 V
R1	QRD161J-222	CR	2.2 K 1/6 W
R2	QRD161J-472	CR	4.7 K 1/6 W
R3	QRD161J-222	CR	2.2 K 1/6 W
R4	QRD161J-392	CR	3.9 K 1/6 W
R5	QRD161J-392	CR	3.9 K 1/6 W
R6	QRD161J-392	CR	3.9 K 1/6 W
R7	QRD161J-392	CR	3.9 K 1/6 W
R8	QRD161J-392	CR	3.9 K 1/6 W
R9	QRD161J-392	CR	3.9 K 1/6 W
R10	QRD161J-392	CR	3.9 K 1/6 W
R11	QRD161J-392	CR	3.9 K 1/6 W
R12	QRD161J-392	CR	3.9 K 1/6 W
R13	QRD161J-392	CR	3.9 K 1/6 W
R14	QRD161J-821	CR	820 1/6 W
R15	QRD161J-821	CR	820 1/6 W
R19	QRD161J-392	CR	3.9 K 1/6 W
R20	QRD161J-392	CR	3.9 K 1/6 W
R21	QRD161J-392	CR	3.9 K 1/6 W
R22	QRD161J-392	CR	3.9 K 1/6 W
R23	QRD161J-392	CR	3.9 K 1/6 W
R24	QRD161J-392	CR	3.9 K 1/6 W
R25	QRD161J-392	CR	3.9 K 1/6 W
R26	QRD161J-392	CR	3.9 K 1/6 W
R27	QRD161J-392	CR	3.9 K 1/6 W
R28	QRD161J-392	CR	3.9 K 1/6 W
R29	QRD161J-821	CR	820 1/6 W
R30	QRD161J-821	CR	820 1/6 W
R34	QRD161J-392	CR	3.9 K 1/6 W
R35	QRD161J-392	CR	3.9 K 1/6 W
R36	QRD161J-392	CR	3.9 K 1/6 W
R37	QRD161J-392	CR	3.9 K 1/6 W
R38	QRD161J-392	CR	3.9 K 1/6 W
R39	QRD161J-392	CR	3.9 K 1/6 W
R40	QRD161J-392	CR	3.9 K 1/6 W
R41	QRD161J-392	CR	3.9 K 1/6 W
R42	QRD161J-392	CR	3.9 K 1/6 W
R43	QRD161J-392	CR	3.9 K 1/6 W
R44	QRD161J-821	CR	820 1/6 W
R45	QRD161J-821	CR	820 1/6 W
R49	QRD161J-392	CR	3.9 K 1/6 W
R50	QRD161J-392	CR	3.9 K 1/6 W
R51	QRD161J-392	CR	3.9 K 1/6 W
R52	QRD161J-392	CR	3.9 K 1/6 W
R53	QRD161J-392	CR	3.9 K 1/6 W
R54	QRD161J-392	CR	3.9 K 1/6 W
R55	QRD161J-392	CR	3.9 K 1/6 W
R56	QRD161J-392	CR	3.9 K 1/6 W
R57	QRD161J-392	CR	3.9 K 1/6 W
R58	QRD161J-392	CR	3.9 K 1/6 W
R59	QRD161J-821	CR	820 1/6 W
R60	QRD161J-821	CR	820 1/6 W
R61	QRD161J-223	CR	22 K 1/6 W
R62	QRD161J-223	CR	22 K 1/6 W
R63	QRD161J-223	CR	22 K 1/6 W
R64	QRD161J-223	CR	22 K 1/6 W